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TURKEYS

By George E. Howard.

NAME turkey, as applied to our favorite fowl, is explainable only upon the theory of its Asiatic nativity. By the French the fowl is called *dindon* or *dinde*, a contraction of *Oiseau d'Inde* (bird of India). The Greeks and Romans had what they called *meleagrides* or *Galline Africanae*, which were supposed by some to be the original race of turkeys, but were in reality Guinea fowls. The first writer who mentions the American turkey is believed to be Oviedo, in 1525,



WHITE HOLLAND TURKEY COCK.

who describes them under the name of peacocks, commenting upon the vast number in the wild state in this country at that early day and their excellence as an article of food. He found them raised by Europeans in New Spain, whence they were introduced into New Castile and the West Indies. Their history and its first discovery is, like the history of most breeds of domestic fowls, involved in obscurity.

Its popular and scientific names are unwarranted, and arose from a misapprehension of what the bird really was, some supposing it to be allied to the Guinea fowl, and others to the peacocks.

The turkey is the most valuable domestic fowl known, and the successful raising of them is profitable to the breeder. Aside from being the largest



BRONZE TURKEY COCK.

of all poultry, its flesh is of the finest and more esteemed than any. It is as easily bred as the hen, and can be raised much cheaper. In proper locations it gathers more than half of its living from the woods. By raising an early brood a



CRESTED TURKEY COCK.

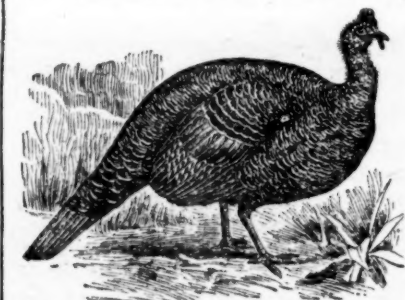
great saving is made, as the young will catch the first crop of grasshoppers, and will prove of a double value.

The farmer who breeds a score or more of turkeys each year readily sees the profit that he realizes at a small cost and trouble, by having them mature in the early winter, when poultry is most relished.

To successfully raise turkeys you must invariably have vigorous birds. This is more essential with the turkey than any other breed, for they are very susceptible

to surroundings and influences, and in-breeding is strenuously to be avoided. Bad food and neglect will dwarf their growth and weaken their constitutions, which gives bad results and poor returns to the breeder. To maintain their size is one of the most important as well as profitable points in raising turkeys. In selecting the breeding stock care must be taken in the size of the male. He should weigh about 30 or 35 pounds and be in perfect condition. It is not so important to have such large females, as some imagine. If the hens are in good condition, they should weigh between 15 and 20 pounds. A good idea for farmers in a neighborhood would be to club together and purchase a fine gobble for breeding, and selecting the best hens; with care and attention there would be great improvement in their hardiness and size.

The best age to breed is two or three years old for the cocks and hens, as they produce stronger and larger stock at this age than yearlings do. The time for setting the first eggs is in March or April, but the character of the season will influence the time of setting. A turkey's nest should be on the bare ground, free from danger of flooding during rain, and located in some quiet place. While sitting, special attention must be given to see that the sitters are off their nests at regular periods. As turkeys are patient sitters, two broods can be hatched by one hen.



OCCELLATED TURKEY.

A good plan is to sit all the hens at once, and give several broods to one after the hatch. This allows the others to return to laying. The process of hatching lasts 28 days. When hatched the mother should be confined in a roomy coop, with a slatted front, open to the south, on a clean, grass run. For the first 24 hours no food is needed for them, as the yolk of the egg from which the poult is hatched serves as nourishment for that period. Be sure that the hen and her brood are free from vermin. Lice is as destructive to turkeys as to chickens. Always dust them with insect powder before leaving the nest, and if you find any lice on the heads of the poult, rub a few drops of sweet oil on their heads, or a mixture of two or three drops of carbolic acid to a teaspoonful of oil. For the first four or five days the food should be light. Hard-boiled eggs mixed with bread crumbs makes a splendid food, and should be fed four or five times a day. Curd made from sour milk, with young onion tops cut very fine and mixed through it, is excellent. When the young



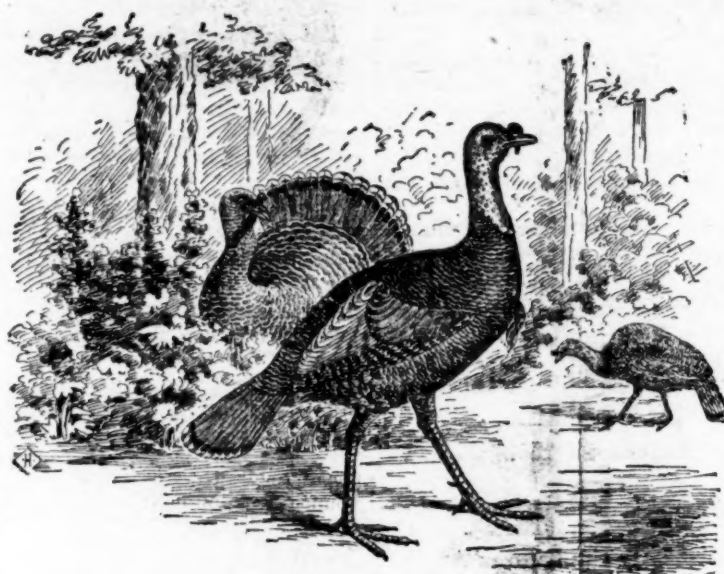
NARRAGANSETT TURKEY.

are a week old they can have some cracked corn or oat or wheat grits; oatmeal with about 10 per cent. of pure bonemeal mixed with it. Boiled Indian meal can be used as a variety in feeding. Always give fresh, cool water two or three times a day, and if possible, give milk as an occasional drink.

When the young are about three weeks old, the old bird may be let out with them every morning after the dew is off the grass, and shut up every evening. The great secret of turkey

raising is in keeping the poult from being chilled. Dampness and rain wrecks a number of promising young to the farmer. If you can keep them dry until they have thrown out the red on their heads, your chances are bright for success. They then become hardy and should be allowed to roam at will, according to their instinct, which they inherit from their wild ancestor.

When they get so that they can fly up to their roost they should be placed in the turkey house. This house may be built in a variety of forms to suit the builder. It should be large and roomy, with board perches of easy access from the ground, so as to avoid crooked breasts and other injuries. They should be locked up



WILD TURKEYS AT HOME.

every night and made secure against dogs, foxes, etc. Feed every morning and night with a variety of food, and they will gather during the day from the fields and woods sufficient numbers of grasshoppers and other insects to supply the noonday meal.

A turkey does not attain his full weight until his third year. Gobblers that were eight months old have been known to weigh from 23 to 29 pounds each, and hens from 13 to 15 pounds each. These are very fine birds, and can be bred from a hen weighing about 15 pounds and cock about 30 or 35 pounds. A great mistake is made by many when they sell their largest birds and save the smallest or latest hatch for breeding purposes. This should never be done if you expect to produce a large and healthy stock. A ten months' cock weighing 30 pounds is cheaper at \$50 than a 20-pound bird at \$5; young hens weighing 16 to 18 pounds are cheaper at \$20 than 12-pound birds at \$5. The large, well-formed birds of perfect plumage will leave their mark upon their progeny.



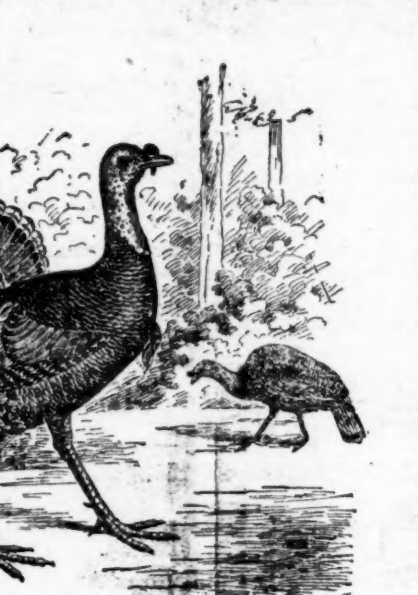
BLACK TURKEY COCK.

Crested turkeys have been considered by various naturalists, and were for some time considered to be a distinct species; but all attempts to breed them true to this point having as yet failed, the crests must be considered as merely accidental sports, though undoubtedly showing the strong relationship or affinity between the turkey and peacock tribes. The birds have been bred from, but have hitherto failed to produce any crested progeny. Experiments have been made by the most skillful breeders of America and England without any degree of success; the crest is therefore only an accidental "sport," and is not a distinct breed.

The American bronze turkey stands at the head of the poultry race, and is appropriately denominated the "king of domestic fowls." The grand proportions and enormous weight which these birds reach in late years seems almost fabulous. At two years old many specimens have been seen that weigh 35 to 40 pounds, and yearling gobblers are not uncommonly exhibited that will bring up the beam at 25 to 30 pounds. Hen turkeys at these ages will, in full breeding condition, weigh 18 to 20 pounds each. This result has been effected through judicious and wise selections.

The native wild turkey is familiarly known in various parts of North America, and fine specimens are met with in the West and in Canada, while they are still found in small numbers in the Middle States. Wild cock turkeys

are sometimes captured that have been very large birds. These, usually, have been aged, however. The average size of the wild turkey is less than that of our domestic flocks. "The grand size and beauty of this fowl," says Audubon, "and its value as a delicate and justly-prized article of food, renders this the most interesting of the birds of the United States. The flesh is more delicate than that of the domestic turkey, and the Western Indians so value it that they call it 'the white man's dish.'" The plumage of the North American turkey is brilliant, of a metallic-bronze blue, and the color is made up of black, green, bay, and brown. The cock is much the more showily-plumed bird;



the female being much duller in feather color. The Ocellated, or South American wild turkey, is a different species, and more brilliant in plumage. This bird is not so well adapted to the regions of our climate as its North American congener, and is unknown as a domesticated bird in the United States and Europe, though it probably was cultivated in Mexico for centuries before the conquest of that country by the Spaniards, since they found it there in a domesticated state.

The many breeds of turkeys give a grand selection for the breeder to select from. Their various colors are capable of pleasing the most fastidious person. Their plumage embraces many hues and brilliancy that fascinates the beholder with admiration. The Narragansett, Black, State and White Holland's are all grand birds, and have admirers by the score. Like all other things, these varieties of breeds are calculated to advance the popularity of turkey raising. The breed which suits your fancy the most, select it, and apply yourself strictly to the successful advancement of it.

Having viewed these thoughts on the raising of turkeys, it can be honestly and conscientiously seen that the task is not so arduous as some seem to think. The greatest success can be obtained by a strict application to their cares and wants for the first three weeks. After this short period we find them to be the hardest and most profitable of any of our domesticated fowls.

In a lecture on "The Leaf and its Functions," by Prof. S. H. Vines, of Oxford University, at the Gardens of the Royal Botanic Society of London, the lecturer referred to the enormous quantity of moisture drawn by the roots from the soil, and by this means discharged into the atmosphere. For example, the common sunflower was found to exhale 12 ounces of water in 12 hours, and in a oak tree, with an estimated number of 700,000 leaves, would in the same way give off something like 700 tons of water during the five months it carries its foliage. While the other parts of plants varied but little in their conditions, the leaves, as being the most important organs of vegetable life, were able to alter themselves to suit the conditions under which they had to live, so that botanists were often able, by the appearance of a plant, to tell the climate and circumstances under which it had been grown.

Europe has 66,320,000 farmers; the United States, 90,000,000.

SACRED CATTLE OF INDIA.

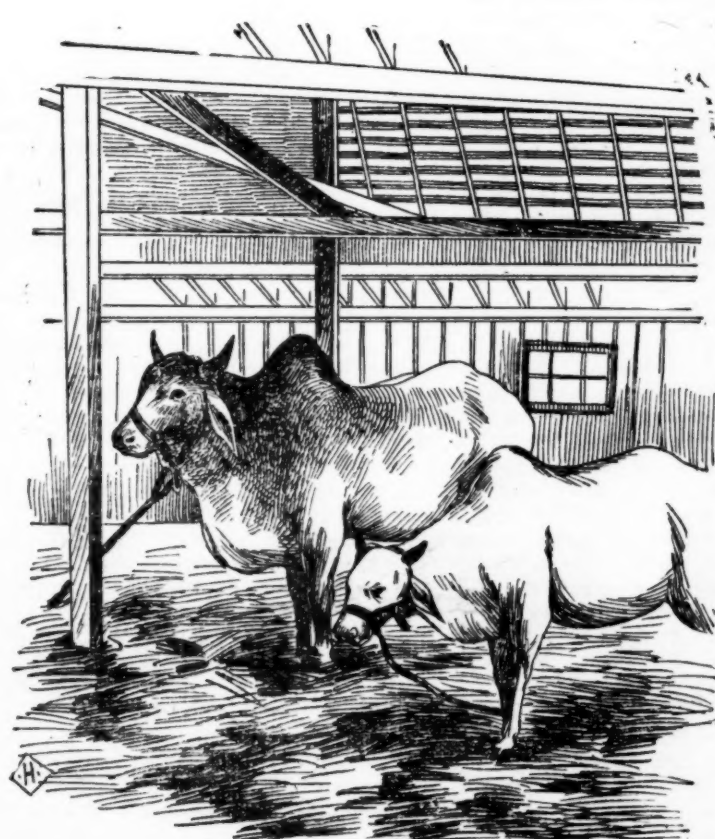
A Cow and Bull With a Pedigree Antedating the Christian Era.

The live stock exhibit of the Agricultural Department, which will be inaugurated this month, will be the most extensive exhibition of its kind ever seen in the world. Not only the stock of this country, horses, cattle, sheep, and swine, will compete for prizes, but against thoroughbreds of their kind from the stock raising countries of the world.

Besides the well-known breeds of horses, cattle, etc., there will be unusual animals on exhibition, and two of them are already stabled at the Fair—a bull and a cow of the Hisah breed of cattle of India. They are known generally as Brahmin cattle, or sacred cattle of India, and the mystical story has been told that these cattle were at one time worshipped as the white elephants of Siam were, and that they were stabled exclusively in Buddhist temples and drank from ewers of gold and fed from troughs of silver. Whatever sacred character they once possessed the India cattle are now bred for combined speed and draft purpose. The two specimens, bull four years old and cow two years old, on exhibition at the Fair, are from Trinidad; one of the Windward Islands of the Caribbean Sea just off the coast of British Guiana. The island is a British colony, and the India bull and cow were bred from sires and cows imported over 12 years ago from Hindustan. The breeding on the island has been eminently successful under Government auspices, and the cattle make fast draft animals. They are speedier than mules, and will draw twice the weight. It is no unusual thing to see these animals hitched up to carriages and handsome barouches in Trinidad, and the India bull is a natural and fast trotter.

The cow at the Fair is a creamy white animal, delicately limbed as a Jersey cow, and somewhat resembles one, only being larger. The bull is mouse-colored, marked black about the muzzle, and is a strong, vigorous-looking animal. Both are short-horned, have drooping ears, and the distinctive feature of the breed is a hump between the shoulders, not unlike that of the American bison, or buffalo. The animals are thin skinned and short haired, and their coats glisten like satin.

There is no difficulty in crossing the India cattle with native stock, and the product is a swift-footed draft animal.



CATTLE FROM BRITISH INDIA.

Among other importations will be 40 head of horses from Russia. They are expected to arrive in New York this week, and will be on exhibition at the Fair at the beginning of next week. All these animals belong to trotting stock, different breeds and the best in Russia, no less than 10 of the horses coming from the imperial stables.

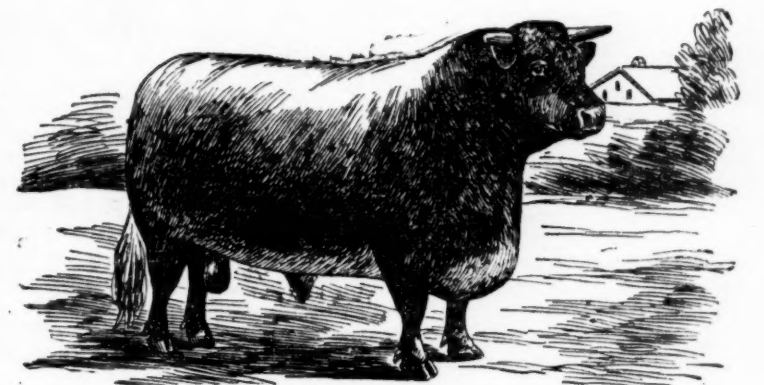
It is the expectation that all of these horses, noted for endurance and speed as well as breeders, will be disposed of in this country for breeding purposes.

Mr. Asa Hefner, a Maryland farmer residing near Sykesville, gave his guests wheat bread at a six o'clock supper on a recent evening that was made from grain growing in his field at 11 o'clock that morning.

YOUNG ABBOTTSBURN.

Winner of the First Prize at the World's Fair for Aged Bulls in the Shorthorn Class.

It is a notable circumstance that none of the Shorthorn bulls contesting for the great prize in the "Aged" Class at the World's Fair, on Tuesday, the 22d ult., were bred in the United States, though all were owned in this country. The winners of the first, third, and fourth prizes were all bred in Canada, while Gay Monarch, the second prize winner, was bred in England.



YOUNG ABBOTTSBURN 110,679.

Bred in Canada and exhibited by T. S. Moberley, of Forest Grove Farm, Kentucky.

Some 50 bulls competed, among whom were several Canadians. Our cousins from Canada having, as one of them remarked, sold all their best calves to the "Yankees" took no prizes, but had to content themselves with the reflection that they might have done so if they had kept their cattle. In the younger classes they naturally did better.

Young Abbottsburn is a roan, eight years old, weighing 2,900 pounds. He is short of limb, deep chested, and very straight from shoulder to rump. His tail is very tapering and white as snow at the tassel. He is very fat, but shows no lumps or unevenness. His head is fine, horns small, and lower limbs clean and fine. In disposition he is gentle as a kitten.

At the Sweepstakes contest, on the 25th ult., he again carried off the prize.

A curiosity of this year's peach crop on the Delaware Peninsula is the fruit of a tree in the garden of Colin Stam at Chestertown, Kent County, Md. All the peaches on this tree are in twigs or triplets. A twig one foot long was found to have 16 twin peaches. An occasional double peach is not unusual, but such fruit seldom reaches a healthy maturity.

WINE MAKING.

It is an Art, and One That Demands Intelligence and Patient Study.

EDITOR AMERICAN FARMER: Can you give the best recipes for making red, white, and sweet wine? I have two acres of vineyard; please answer through THE AMERICAN FARMER.

I have taken your paper seven or eight months and like it very well.—EDWIN L. CADY, West Cheltenham, Yamhill Co., Ore.

There are no recipes for making wine. Those that pretend to are humbugs. Wine making is an art, like butter making and raising big crops of potatoes.

The man succeeds best who studies the subject most carefully and adapts his means most skillfully to the end in view.

There are a few general principles which can be laid down for the government of our correspondent. The first is that his grapes should be thoroughly ripe, and if he is going to make a fine wine he cannot be too careful in seeing that they have just reached the right stage of ripeness, and that no unripe berries and none that are mildewed or rotten are allowed to go into the press to taint the flavor of the wine. Of course, this means work, and the amount that he is willing to give to it depends upon the quality of wine that he wants to make. It is like butter making—where one decides whether he will make "gilt-edged," with the utmost care and attention to details, or from "fine" down to "poor."

The grapes are crushed in a mill and then pressed. The resulting liquid is put in tubs or vats and allowed to undergo its first fermentation, which it does in a short time—a few hours or days, according to the kind of grapes, richness in sugar, temperature of the air, etc. A great deal of judgment and experience are necessary here, as in every step of the process. In Europe the wine makers generally make the wine go through another fermentation at this time by thoroughly stirring up the sediment which has settled from the first working. After this fermentation has been completed the wine is drawn off into storage casks, where it usually undergoes another fermentation. When it reaches the proper degree of ripeness it is bottled or put into air-tight casks. When this should be done is a matter of judgment, which can only be learned by experience, and for which we will not attempt to give directions. Chemically speaking, it should be done when all the sugar in the juice has been converted into alcohol, and before any of it begins to change into vinegar. Our correspondent had better simply crush and press his grapes with what care and skill seems best to him, and ferment and decant the juice and see what results he obtains. By careful observation he will learn more in this way than by any amount of verbal direction. If he does not succeed in producing a satisfactory wine the first time he can change it all into first-class vinegar, which is nearly as valuable a product as ordinary wine.—EDITOR AMERICAN FARMER.

The Soja Beans vs. Corn.

The farmers of the United States are stuck on corn both in the North and South, East and West, wherever it can be grown without any regard to the relative profits of the crop.

It is the general conclusion of all that corn must do everything, and if it does not then nothing else can; hence, much of the dissatisfaction and complaint of stock farmers. This idea of corn or nothing is perhaps being quietly dissented from by thinking farmers all over this country. The inquiry with the few who raise the question, what can take the place of corn as stock food? Among the new forage plants, the Soja bean is entitled to consideration. It grows on almost any soil and withstands drouth equal to the sorghum plant. The grain—beans—equal corn at its best yield when the season is favorable, no matter how dry the climate may prove to be. The fodder ranks equal to clover in quality. The writer, who has tried it, believes it is to be of great advantage to stock farmers.

A Cunning Frog.

A naturalist paper relates an interesting instance of a frog's cunning. A brood of chickens was fed with moistened meal in saucers, and when the dough soured a little it attracted large numbers of flies. An observant toad had evidently noticed this, and every day toward evening he would make his appearance in the yard, hop to a saucer, climb in and roll over and over until he was covered with meal, having done which he awaited developments. The flies, enticed by the smell, soon swarmed around the scheming batrachian, and whenever one passed within two inches or so of his nose his tongue darted out and the fly disappeared. This plan worked so well that the toad made a regular business of it.



Yard Echoes.

It pays to feed the young stock well. Cut the grass before it becomes tough and woody.

Winter wheat and rye make good fall pastures for stock.

If corn fodder is cut or crushed, the cattle will eat almost all of it.

Do not allow the cattle to drink from ponds that are covered with green scum. Do not keep any stock over Winter that will not pay for good care and food.

Repair the fences around the corn-field before the cattle get in and damage the crop.

Although the horse market is dull, there is still a good demand for the better class of horses.

Have the windows in the stable so arranged that the light will not fall directly in the eyes of the cattle.

Millet should be harvested this month. Do not let it get too ripe before cutting. It is cut and cured like clover.

Look over the stock on the farm and determine which are to be kept over Winter and which are to be fattened and sold.

In France and Germany there are many shops where horse meat alone is sold. In these countries when a horse is injured it is sold to those making a business of slaughtering them. All animals are inspected by Government officials before killing, so there is little danger of any diseased meat being sold.

At this time of the year the grass in the pasture is liable to dry up and lose more or less of its nutritive value. Exercise care that the stock loses nothing, and if necessary supplement with grain feed. The man who has a good supply of sweet corn ready to take the place of grass will perhaps be called lucky. We would rather say that he is wise and has shown proper forethought.

If, as a German oculist says, defective eyesight is often caused by wearing tight collars, then, asks the *Pacific Farmer*, why should not defective eyesight in horses be caused by the same things. If a tight fitting collar on a man will cause weak eyes and headache, what will not the horrible and ill-fitting collars that torture some horses cause? This is a subject that will stand investigation.

Care of the Pasture.

EDITOR AMERICAN FARMER: It does not pay in the end to allow the cattle to eat the pasture too close. During the hot, dry weather the grass makes very little growth, and the cattle soon eat it down almost to the roots. When the cold weather comes, the roots have very little protection, and are very easily killed. Grasses that have long roots may do very well in dry weather, as they can obtain moisture from below; but few of the pasture grasses have long roots, so they suffer greatly from a drought. Clover has longer roots than the rest of the grasses, and can stand dry weather as long as it is not pastured too close. Cattle can get very little nutriment from the pasture at this dry season, and it is best to take them into the barnyard and give them grain or hay, rather than let them ruin the meadow for years to come. If you have a field of sweet corn from which the ears have been gathered, cut this and feed to them. Early beets and other vegetables that have become too old for market may be pulled and given them. After the pastures have started again, the cattle may be turned on them once more, so there will be no loss in the end. Had they been kept on the meadow during the drouth there would have been no late pasture. In many meadows the best grass has been killed by severe pasturing, and little remains except the wire grass and some of the less nutritious varieties, which are not relished by the cattle. Do not let economy overshadow future profit.

Ventilation of Stables.

The sanitary condition of stables is a matter which has not received anything approaching the attention which it deserves. The effects of an intelligent consideration of this question, followed by the necessary action for bringing about improvement, have been strikingly illustrated by Edward Tidman, of London, in a paper on "Sanitary Ventilation," recently read by him before the Sanitary Institute of that city. The case quoted is one of a cavalry barracks, where the death rate of the horses was 180 to 197 per 1,000 per annum. The stables were rebuilt on designs in which provision was made for efficient drainage and ventilation, and during the following 50 years the death rate fell to 28.50 per 1,000. Mr. Tidman says that 75 per cent. of town stables in England are in such an unsanitary state as to be dangerous to man and animals, and to this cause is attributed the prevalence of glanders and farcy and other diseases among the horses.

A resident at Pineville, Ore., has a porcupine from which he has shorn the quills, leaving it perfectly harmless. The porcupine evidently realizes that it is deprived of its means of defense, and instead of being on the defensive is quite docile.

DOMESTIC ANIMALS.

Rules Governing Their Breeding and Management.

CLARK ATKINSON, PH. D.

HEREDITY.

To become an expert in the breeding and management of domestic animals considerable practical experience, as well as a patient study of the underlying scientific principles, is necessary. That great progress has been made in this department of agricultural industry there can be no doubt.

Writing of the agriculture in the 14th century, Prof. Rogers, in his "Political Economy," makes this statement: "In those days cattle were small and stunted by the privations and hard fare of Winter. The average weight of a good ox was under 400 pounds. Sheep, too, were small, poor, and came very slowly to maturity. The average weight of a fleece was not more than two pounds."

Great progress and improvement has been made since that time, but the enterprising live stock breeder is still looking forward to greater improvement. The question for our present consideration is the means by which this advancement has been made and the forces in nature that may be made to give the practical breeder still better results. Previous to the time of Robert Bakewell, what improvement had been made grew out of such empirical aphorisms as "Like produces like" and "Breed from the best," but it is evident from the practice of breeders that they did not understand the scientific principles underlying these expressions.

They had no system of selection, and their standard of excellence was constantly changing. About the middle of the last century Mr. Bakewell, of England, originated and put into practice a new system. Quoting from Prof. Miles: "His belief that the familiar maxim, 'Like begets like,' was not limited to the general character of the offspring to the parent, but extended to the minutest details of the organization, led him to adopt for his guidance a definite standard of excellence, representing the form and internal qualities that were best adapted to the highest development of the animal for a special purpose."

Acting upon this theory, Bakewell was able to make wonderful progress in developing various kinds of domestic animals, and a long line of eminent breeders, proceeding upon the same theory, have given us our wonderfully improved domestic animals of the present time. This art has grown into a science such as Whewell remarks, in his "History of the Inductive Sciences": "In all cases the arts are prior to the related sciences. Art is the parent, not the progeny, of science; the realization of principles in practice forms part of the prelude, as well as the signal of theoretical discovery." The same principles that have developed our pure-bred stock will do much to improve our common stock, but great care and patience is necessary. "It is not to be expected," says Prof. Miles, "that all persons will be equally successful in producing animals of extraordinary merit; but it is, nevertheless, true that a careful study of the principles of the art, which are easily understood, will enable the farmer to make improvements in his stock that will add largely to his stock."

The most widely accepted principle is that of inheritance or heredity of normal characteristics, and yet there are many apparent exceptions to this well established law. The apparent exceptions can usually be accounted for on some scientific basis, and do not disprove, in any sense, the established principle of heredity. We do not deem it expedient at this time to go into the argument of so well established a doctrine. Not only the external appearance, the size, the form, the color, etc., but the nervous system, the digestive apparatus, and all the special characteristics are handed down from parent to offspring with wonderful regularity. Not only the characteristics of the different breeds of domestic animals, but different families of the same breed often inherit striking family characteristics.

The feeding quality, the disposition to lay on fat, and the length of life are largely if not wholly the result of heredity. Speed, gate, mental characteristics, temper, disposition, peculiarities of vision, and fecundity are all controlled by inheritance. Of the high bred families of the improved breeds, some are remarkably prolific, while others are almost uniformly deficient in this important quality. In our own experience, we have seen this fact frequently demonstrated more than once. One case which illustrates this point was our attempt, several years ago, to breed full bred Yorkshire hogs on our farm.

We bought a trio of pigs for breeding purposes, and when about half grown one of the sows died with cholera, but the other one and the boar grew to maturity and were always fat, and we verily believe they would have starved to death before they would have become poor. At about one year old the sow had two pigs and lost one of them. We kept her until nearly three years old, but she had no more pigs and was

finally butchered when so fat she could not get up. The one sow pig she raised had almost a parallel history, but had two litters of pigs—one of two, and one of three. Two of these pigs were kept and bred to a Poland-China boar, and did better as breeders than their mother and grandmother, but I was compelled to abandon the breed or quit the hog business. The boar when bred to common sows was very prolific and very much improved my stock.

The celebrated Shorthorn cow Young Mary had 14 heifer calves and one bull, and her offspring were exceptionally prolific.

L. F. Allen, editor of the "American Shorthorn Herd Book," says more herd book pedigrees run to Young Mary than any other half-dozen cows on record. The most important consideration connected with this question of heredity to the practical breeder is the well established fact that diseases and abnormal peculiarities are transmitted from parent to offspring.

We cannot go into this matter in detail, but would caution the farmer or breeder against the use of diseased animals for breeding purposes. Hundreds of cases might be cited to prove that bone spavin, curbs, ring bone, strain of the back tendons, swelled legs, grease and roaring, blindness, as well as many diseases of cattle, sheep, and other domestic animals, are often hereditary.

Prof. Miles, in his "Stock Breeding," says: "The interested predisposition to any form of disease may be derived from either or both parents; but in the latter case it is also likely to be intensified by being made a dominant character. The inherited predisposition to disease in individuals apparently free from it may often be detected by its repeated occurrence in some collateral branches of the family. This alternation in the development of hereditary disease is observed, not in rare instances only, but so frequently that it seems to be the rule rather than the exception in the transmission of constitutional peculiarities."

We remember a curious circumstance, that occurred in our boyhood. A sheep on our father's farm was taken mysteriously sick with what was supposed to be "grub in the head," and had a peculiar habit of holding its head to one side and running around in a circle. After a day or two it died. The pelt was taken off and the carcass thrown to a fine, large Chester White sow that was expected to farrow in a few days. The next day the sow was noticed to be holding her head to one side and running around in a circle. In a day or two she was better, and nothing more was thought of it until her beautiful litter of nine pigs came, and they all were afflicted as the sheep and sow had been.

As a child I watched those pigs for hours. When they would go to suck, they would grab the nipple and suck for dear life for a few minutes, when they would be taken with a St. Vitus dance, like nervous spasms, and after holding on as long as they could would let loose and run around a circle some three feet in circumference and grab hold again. When they got large enough to eat corn, they would leave the corn and go through the same performance, but less frequently as they grew older. Finally, they seemed to outgrow it and made fine hogs. None of them were ever bred, so we do not know how far the disease might have extended.

Experience has taught the practical breeder that acquired habits may become hereditary and transmitted from generation to generation, and out of the certainty with which these acquired characteristics may be transmitted grows our most secure and patent means of improving the domestic animals. We see this fact illustrated in the tendency of Shorthorns, Herefords, Devons, and some other breeds of cattle, as well as many breeds of sheep and hogs, to lay on fat; the abundant milk supply of the Jerseys, Holsteins, and Ayrshires; the improvement of the wool of various breeds of sheep; in the characteristics of the improved breeds of horses, and in the various breeds of dogs with all their various characteristics, which have been developed from the special training of their ancestors. Wonderful stories are told of the remarkable sagacity of the shepherd dog, the grayhound, which runs by sight, and the bloodhound, which runs by scent, and their offspring all inherit their peculiarities.

"There seems to be reason to believe," says Carpenter, "that such hereditary transmission is limited to acquired peculiarities, which are simply modifications of the natural constitution of the race, and would not extend to such as would be altogether foreign to it."

"In the year 1770," says D'Arcy, "a hornless bull was produced in Paraguay, which has been the progenitor of a race of hornless cattle that has since multiplied extensively in that country." The polled breeds everywhere, doubtless, had a similar origin. Dr. Randall tells us of a race of sheep that had their ears almost entirely "bred off" and the "Otter," or "Ancorn" breed of sheep that originated in Massachusetts in 1791, came near having their legs "bred off."

"This deformed breed is said to be descended from a ram in which the malformation was congenital. It is stated on the authority of Col. Humphreys that this defect became so fixed by inheritance that it was uniformly transmitted."

The journal of the Royal Agricultural Society tells us of a peculiar trait of a family of pigs that lost their tails at a certain age by wasting away and dropping off. I have noticed this same peculiarity in a family of pigs bred by my father many years ago, and have not doubt it was the result of his practice of cutting off his pig's tails quite short at about a given age. Dr. Anderson gives a case of a rabbit which had but one ear, and by selection a breed was established that uniformly had but one ear, and the same author gives the case of a bitch that was born with only three legs.

"She has had several litters of puppies,

and among these several individuals were produced that had the same defect with herself."

In a treatise like this we can hardly do more than state the well established principles involved in practical stock breeding, which has been demonstrated by experience and sustained thousands of cited cases and the unimpeachable testimony of many authorities.

Mr. Sanders, in his "Horse Breeding," says: "The passage in the Decalogue, which declares that the iniquities of the fathers are visited upon the children into the third and fourth generation, is clothed with a new and startling significance, since it has come to be generally understood that this declaration is a concise statement of the operations of a physiological law from which there is absolutely no escape. That the physical as well as the mental and moral infirmities and peculiarities of the father and mother are visited upon their children, even beyond the third and fourth generations, is as true when applied to the human family as it is of cattle, horses, sheep, and swine."

It stands as an established fact that "like produces like," and that the law of heredity is immutable; but coming in conflict with other laws apparent exceptions sometimes develop. The discussion of some of these supposed exceptions will go to make up the following chapter.

(To be continued.)

The Fall Pasture.

Winter rye should be sown this month, if the stockman or dairyman wants fine Fall and early Spring pasturage. If you have an old, worn-out sod, turn it under and sow the land to rye. Every farmer may have his own idea as to the proper amount to sow to an acre, and as the land may be different, it would be quite hard to give the exact amount of seed to sow.

The rye can be sown in the corn-field just before the crop has ripened, and thus save land, furnish a pasturage, and lastly, but not least, turned under as a fertilizer. In the late Fall the pasturage comes in very well for the stock.

It is not too early to sow clover, and, in fact, it is better now to sow than later in the season. If seeded now, the weather and everything is favorable to the germination, which is quite likely not to be the case in the late Fall, when there is a great danger of the clover getting a start sufficient to Winter well.

THE NATIONAL SWINE BREEDERS.

Program of the 11th Annual Meeting at Chicago Next Month.

The National Swine Breeders' Association announces the following program for their 11th annual meeting, to be held in Assembly Hall, World's Columbian Exposition, Chicago, Ill., Oct. 13, 1893:

Address, S. E. Morton, President, Camden, O.; Reports, Jno. G. Springer, Secretary and Treasurer, Springfield, Ill.; "The Swine Industry," Hon. J. Sterling Morton, Secretary of Agriculture; "Care of Boar," Charles J. Stuckey, Atlanta, Ill. Discussion, led by I. N. Barker, Thornton, Ind.; "Care of Sow," George F. Davis, Dyer, Ind. Discussion, led by J. B. Cunningham, Edin, Ill.; "Swine Feeding," Theodore Louis, Louisville, Wis.; "The Breeding Pen," Geo. S. Prine, Oskaloosa, Iowa. Discussion, led by A. J. Lovejoy, Roscoe, Ill.; "Necessity for Thorough Organization," W. W. McClung, Waterloo, Iowa. Discussion, led by S. H. Todd, Wakarusa, O.

This meeting, occurring during the Swine Exhibit of the World's Columbian Exposition, will be very largely attended, and its proceedings will be of unusual interest and benefit. In order that the same be published immediately after the meeting, members of the association not expecting to have the pleasure and profit derived by personal attendance, are requested to at once forward to the Secretary their annual dues, \$1, so that a copy of the proceedings, when published, may be sent them.

Swine breeders who have not united with this association should now do so and thus give their individual aid toward the advancement of the great industry in which they are engaged. By the payment of \$1 for membership fee, the names of breeders will be placed on and published among the roll of members, and will be entitled to a copy of the proceedings of the coming meeting, when printed, and in addition there will be at once sent to them the proceedings for five preceding meetings of the association. These proceedings of past meetings contain most excellent papers, addresses, and discussions on matters of vital interest to the swine industry, and are alone worth more than the amount required for membership fee.

Kidney Worms in Hogs.

A long time ago, when we did not give much care to hogs, it was common to find them weak in loins. They would weave around on their hind legs, and sometimes would drag their hind legs behind them in the most piteous fashion. They were said to have "worms in their kidneys." This trouble, as I remember it, was mainly in the Spring and early Summer, and with sows that were suckled to death by a lot of pigs. My father cured them by putting pine tar all over their loins. I know he cured the worst cases in this way. There were no veterinary practitioners in those days. There were some "horse doctors." Perhaps our scientific vets would not diagnose such cases as mentioned above as kidney worms, nor prescribe the pine tar cure, but I know the above statements are true. We often had hogs in that fix and my father cured them every time.—R. M. B.

Hogs that have skimmed milk in their ration look better and are healthier than those fed on grain alone.

SHEEP AND WOOL.

Shearings.

Wisconsin exhibits 144 fleeces at the World's Fair.

A whistling girl and a flock of sheep are the two best things a man can keep.

After studying the matter carefully and making a choice of breeds stick to it and not be changing around.

Say, why not put skulking dogs on the "suspected" list and pass the record around among the neighbors, so they will know what dogs to keep an eye on?

There has been a decrease of 10 per cent. in the number of sheep in the region east of the Mississippi River and an increase in wool equal to 243 per cent.

If the lambs are droopy and off in style and appearance examine them and know if they are dead on their feet from ticks and lice, then cure them at once.

Hon. J. J. Hurt, who has made a handsome fortune in the last few years, admits that there "is room in northern Wyoming for 1,000,000 more sheep."

The wool clips of this year are well grown, due to the vigorous, even weather of last year, when sheep had good appetites and came through the Winter in good, hearty condition.

The State of Oregon will give 17,000,000 pounds of wool this year. This is on the basis of seven pounds to the fleece. The increase of sheep in Oregon this year is estimated at 90 per cent.

An exchange avers "that plenty of grub in the belly is a preventive of grub in the head." This is really true, because a bright, active sheep will guard itself against the attacks of the fly with more spirit than a weak, feeble starveling.

The great secret in improving a flock lies directly in persistent culling and selecting. If from a bad cross or some local cause the lambs are below the mark, sell them, as they cannot be expected to make or produce what is wanted.

The wool growers near Parkersburg, W. Va., who, by the way, are among the most intelligent in this country, "have lost interest in the business because of lower prices and the competition of skirted Australian fleeces of the same character."

Texas wethers have been selling at \$2.50 per head. Colorado, Wyoming, and Montana wethers have brought \$3.50 to \$4 per head, and all due to the enterprise shown in breeding. The Northern rangemen have used the Rambouillet rams for years.

Wool and Mutton calculates that every darkey and a majority of the white men in the South keep from one to six dogs—long, lean, lank, hungry hounds. The dog must live, and he certainly never will do so off the "crumbs which fall from his master's table."

The sheepmen in the vicinity of Pierre, S. D., met at the courthouse and organized an association to be known as the Central South Dakota Sheep Association. The object of the organization is to protect their rapidly-increasing sheep interests.

It is said "that Iowa has a law which requires all sheep owners to report all cases known to them of disease among sheep to supervisors. This is done that the sheep inspector may take measures to prevent the spreading of contagious or infectious diseases among flocks."

Mr. J. B. Okie, of Wyoming, a highly successful wool grower, in speaking of the range in that State, says: "I know of no overcrowded range. I do know that the Big Horn Basin affords the best sheep range in the world. It has 9,000 square miles; of this 5,000 is not used."

In addition to what has been said about destroying weeds, THE AMERICAN FARMER wishes to call special attention to the work of destroying burrs of all kinds. Burry wool is rightly docked five cents a pound, which shows the time and money spent in cutting and burning burrs is a good investment.

THE AMERICAN FARMER suggests to every farmer who keeps sheep that an experiment be made in keeping a few, in a better manner than has been the practice, keeping a strict account of extra expense of care and feed, and recording the results. In this way a good deal can be learned, and perhaps some valuable progress made.

Some intelligent though impractical men try to believe that sheep do not drink water, especially in the Summer. If anyone has a desire to learn better, let a supply of nice water be provided, and then watch the flock visit it regularly and note the very great satisfaction that the panting brutes exhibit as they daintily fill themselves—not once, but half a dozen times a day. No animal appreciates water more keenly.

The Future of the Mutton Industry.

Mutton raising has become a profitable industry on Southern and Western ranges. Grass mutton from the ranges comprises the larger bulk of Summer and Fall supplies in the Northern cities. When the ranges cannot send fat mutton to market they send "feeders" to the farmers in the corn belt. Nebraska, Kansas, Iowa, Minnesota, Wisconsin, Missouri, and Illinois farmers find these range sheep make profitable feeders.

The advent of railroads has made the mutton industry possible and profitable in all the Western regions; also, caused corn raisers to turn their attention to feeding sheep instead of sending their surplus corn to Chicago to be sold on an over supplied market. The mutual relations of the ranges to these "feeding regions" works very harmoniously and advantageously to all parties. What was begun as an experiment promises to be permanent.

A SELF-FEEDER.

A Subscriber Who Believes in This Method of Fattening Sheep.

EDITOR AMERICAN FARMER: I see you would like a description of self-feeder used in fattening sheep. Such as we use around here is a very simple and cheap affair. I make a platform about three feet four inches square, using matched lumber. I then take 2 x 4, cut three feet long for corner posts, fasten the platform about 14 inches high, and put a three-inch strip around it to keep the grain from wasting; leave about an eight-inch space for sheep to put their heads in, then fasten a board around the top of the posts to keep the sheep from climbing on platform. Get an empty cracker barrel, "knock the bottom out," and set it in center of platform, using thin, small blocks under barrel to let the grain out. Raise the barrel just high enough to let the sheep work the grain out as fast as they eat it.



Any man can make one in an hour's time. I use one feeder to about 50 or 60 sheep, but would not advise using them only in finishing sheep for market. I sweep the platform perfectly clean once a day; what little grain there is left feed to the hens or hogs, as it will not do to let the platform get dirty in any way. Never let the barrel get empty, for fear some get too much when filled again.

You inquire why I think it better than the old way. In the first place, it is a great saving of labor; you only have to fill the barrel once a day. Another thing, the sheep never crowd around it after the first day, thus giving the small ones the same chance as large ones. Setting the feeder in center of pen so sheep can get all around it, takes much less room than troughs.

In regard to feeding hay: I always feed hay to lambs what they will eat. Old sheep will fatten with straw; they will not eat much when eating heavy on grain. There is no danger except on the start. They must be put on oats or corn and bran to fill them on the start, then gradually add the corn till you get them on clean corn, which I think to finish a sheep takes the cake.

You will have a great many readers that will find fault with feeding in this way. It was a long time before I would try one, but can say from experience that I think it the most economical way.—SMITH ROGERS, Lennon, Mich.

A Good Idea.

An experiment has been started by the editors of the *American Wool and Cotton Reporter*, Boston, in purchasing some abandoned farms in Maine and stocking them with 500 sheep. They find the cost of keeping these sheep is about five cents per head per week for corn, oats, and shorts, with hay extra. They report the lambing season progressed nicely; March 28 they had 107 lambs and had lost 26, leaving 81 doing well. It is gratifying to know that these enterprising gentlemen had the courage and sagacity to do this work for the poor, worn out farms of that State. Similar lands are found in all the other States of the Union, and it is hoped other and like minded capitalists may become interested in redeeming these wasted lands to a new and better agriculture than has ever been possible before.

Will Common Sense Prevail?

The wool growers of the United States have long disregarded the wishes of the manufacturers and their own true interests in the careless manner of putting up their fleeces. This has served to estrange the manufacturer's good feeling and excuse the preference shown for skirted Australian fleeces. Now that mutton is accorded the post of honor, will the mutton raisers give due attention and produce a first-class article? Unfortunately for such a hoped-for conclusion there are already evidences that a poor class of mutton will handicap the market by mere largeness of numbers and cut the price of the better product. How long this may last it is impossible now to say. Whether there will be enough of the really good produced to establish a demand remains to be seen.

A Pointer to Mutton Lamb Raisers.

Farmers who keep sheep have been repeatedly urged to acquaint themselves with the needs, the supply, and demand of the market, that they may the more intelligently breed, feed, dress, and sell a high standard product. In addition to all this it would be a good business practice to form the acquaintance of good fivers in towns and cities, who buy the best and always pay the best prices; that like a good article of lamb mutton, well dressed, and attractive in form from first hands. Such city people are customers well worth knowing, and it pays to cater to their notions.

There are often found places in the pasture where grass refuses to grow for some reason or other. These bare spots or places where weeds will grow, choking out all other vegetation, are curiosities, and should be studied and experimented with. It may be necessary to plow them up and thoroughly cultivate the soil to destroy the more persistent kinds of weeds.

DISEASES OF SHEEP.

The Necessity of Keeping the Flock in a Healthy Condition.

We should feel that we were recreant to duty unless attention was called to the seriousness of increasing diseases among flocks. Of the many ailments, none are more to be dreaded than lung worms. While the several other sorts of worms are known to inhabit the internal organs of the sheep, these lung worms seem to be found of late under circumstances that were unsuspected and impossible. They are, so far as is known, a belonging of low, moist lands; at least, they find on such ground favorable opportunity of existing and gaining the system of the sheep, one of its hosts. It belongs, also, to the dog, the deer, the rabbit, etc.; but of its damage to the sheep, and how it gets possession, and what to do to dislodge them, we have the greatest desire to know. All that we do know seems of no importance, and is occasionally so unsatisfactory that we are in doubt if we know or ever shall know how to cure and control the pests.

Reports are coming—reliable information—of lung worms destroying grown sheep as well as lambs on high and healthy lands as well as on moist and suspicious lands.

While there is no doubt that moist soils may aid in the work of propagating and disseminating parasitic broods, the query is how do dry, high lands do the same?

It is reasonable to hope that scientific investigations shall give more light on the subject, and that the means of heading off these broods before they gain a lodgment in the system shall be discovered. It is to be regretted that curative measures have not been found that gave more satisfactory results in treating diseased sheep. It would seem that quite sufficient time has elapsed for experiments along this line. As said, however, what was thought to be true is upset by new developments and thus the supposed knowledge is confounded. Some gains are made and the case is not hopeless.

Preventive measures are the most promising, and perhaps possible. These should be carefully considered and extended farther back and more persistently all along the line.

The investigations must be practical and by practical men. Thanks to the few who are giving this the most painstaking thought and patient, methodical examination. Not only must unhealthy lands be made healthy, infected lands be disinfected, diseased sheep be cured; but the means of preventing the re-infection of flocks and pastures must be discovered and learned by flockmen.

It is suggested that this, as well as all other parasites, are introduced unexpectedly and surely by buying infected sheep for the supposed purpose of improving the flock. One such instance occurs to the writer's mind: A grandly-bred ram was bought of a highly reputable breeder and turned into a paddock by himself to recuperate. No lurking parasites were suspected, but the ram began to show parasitic symptoms, the pasture was infected, sound sheep would become diseased when occupying the paddock, and fairs were entertained that the whole farm would become unsafe for flocks. This gentleman, a breeder of most excellent sheep, was a candid, observing man, and made the fairest statements concerning the case which might have been damaging to his interests.

Still another case: This was of scab. A man suspected the presence of scab in his flock and would not sell a sheep to anyone, though a breeder and having a fine trade. These conclusions and statements lead us to insist upon the most careful buying and selling of sheep suspected of parasitic ailments.

If sheep pastures are not healthy it is certain that flocks occupying them cannot long remain healthy. No pasture that has been used by diseased sheep should be occupied by sound sheep. By such precautionary measures much liability to disease may be averted. In the meantime much may be gained in the treatment of flocks, and the whole subject may become better understood.

SHEEP RAISING IN UTAH.

The Candid Views of a Candid Man Who Knows What he is Talking About.

Chas. Crane, of Utah, a large sheep raiser, writes:

I have only a few sheep left. With the Democrats abolishing the lines, I want no sheep. I want all I have in cash and in mortgages. You could not sell anything now. Things, indeed, look blue for us in the West, with wool and lead on the free list.

Wool, and wool only, is the consideration in the West. We have a certain figure for our wethers here; little or large, \$3 to \$3.25 per head. Wool, now and always, will command the wool growers' first attention in the West. Carcass after wool. * * *

Recently I sold 1,400 sheep for \$7,000. I have 1,500 sheep left—all sheep, all wool and mutton—that cut last season 12½ pounds per head. I can honestly say I believe I have the best herd of sheep in existence (range sheep). * * *

Perhaps the change in the tariff may be best, for with free wool the poor, lazy, slovenly wool grower will be out, and the thoughtful, persevering, and energetic sheep raiser will remain. We shall be rid of the scrubby two and a half to four pound shearing sheep, and only the sheep that shear heavy with a good carcass will remain.

Too Mad to Talk.

The Michigan Farmer says: "In this State while some growers are selling the great majority have put their clips away and gone on with their field work. Some of them are too mad to even say wool. They will not be likely to accept prices now offered—16 to 17 cents for fine washed fleeces until compelled to. One of them expresses himself: 'I have put my wool away in the granary in good shape. I won't even open the granary door.'"

The wheat area of India is estimated at 27,000,000 acres.

His Future Wife.

GIVE ME A penny, please, sir."

I was about to say "No!" very savagely, when I chanced to let my eye fall on the little upturned face—the face of one of Raphael's cherubs.

Then I paused on the curbstone, balancing the coin on my glove tip.

"So you want a penny, little one?"

"Yes, sir."

"Where do you live?"

"Nowhere."

"Where is your mother?"

"Haven't got any."

"Nor father?"

She shook her head, still eyeing the penny covetously, as if fearful that it would vanish shortly out of her sight.

I tossed it toward her—she snapped it up as a hungry dog might seize a bone, and, depositing it somewhere among her rags, ran after a portly old gentleman, who was picking his way across the muddy streets.

I passed on to the clubhouse, glanced over the newspapers, and all the time those bright-gold curls and the large, wondering brown eyes of the little street sweeper kept coming and going like the changing tints of a dream-landscape before my mind's eye.

What an impression that face had left on my memory!

Had the tiny waif been 10 years older I should unhesitatingly have pronounced it an affair of love at first sight—as it was, I could not explain away the mystery at all!

That great central chandelier in Mr. Wyndham's dining-room glowed with scores of tiny jets of flame. The silver epergne in the middle, crowned with a bouquet of rare flowers, seemed like a bank of perfume, and the flash of crimson wines and delicate liquors that surrounded me stimulated the senses to their utmost capacities of enjoyment.

Virginia Wyndham sat directly opposite me—a handsome, dashing girl, hitherto my especial admiration.

She was a little piqued to-night at my evident abstraction, and flirted most despatchly with her next neighbor, a rising young lawyer. I looked on, most philosophically.

Twenty-four hours previously I should have been frantic with jealousy—now I didn't care a snap!

Old Wyndham whisked away in disgust at my languid apathy, and I took my hat and bade the fair Virginia good evening. I had a sort of secret conviction that the whole affair had been gotten up to give me a nice chance for "proposing."

My room was illuminated only by the low, ruddy gleam of the fire as I entered it. It seemed very lonely, with the vacant chair beside the round table, whose books and papers and piles of engravings were all in confusion.

I sat down and began to ponder various things.

I had never met any girl whom I fancied sufficiently to invite her to share my wealth. Perhaps I was over-fatuous. Be that as it might, a new fancy had taken possession of the citadel of my brain. I would adopt the little friendless damsel of the street crossings. I would educate her as my wife ought to be educated; I would teach her to love me, and then—

I involuntarily sprang to my feet as I pictured forth mentally the glorious loveliness into which her childless beauty would expand! It was a settled thing—I would adopt her!

And I adopted Winnie—the only name to which the half-savage young elf would own.



WINNIE.

"And now, Winnie," said I, the evening before my pretty little protegee was to be placed under the care of Mme. Delarue, to be thoroughly remodeled, "you know you are to be my little wife in about eight years."

Winnie sat on the edge of the fenders, kicking her little feet on the carpet, as she devoured the cream, candy, and sugar plums wherewith I had won her heart. As I finished speaking she fixed her large eyes solemnly on my face.

"Little wife? What does that mean?"

"Why," said I, rather embarrassed, "it means that I shall love you very much, and buy you new dresses and bracelets and—"

"And candies?"

"Of course," said I, wincing a little.

"Well," said Winnie, pensively contemplating a gigantic sugar almond, "I'll think of it."

Eight years passed away—eight years of sunshine and blossoming, and during all that time I never went near Winnie. Letters innumerable were exchanged between us—gay, friendly letters—but I sought no personal interview.

I tried to be satisfied with Mme. Delarue's monthly reports of progress, and, as I saw my bachelor friends one by one engulfed in the pool of matrimony, like withered leaves drifting into a hurried forest stream, I consoled myself with thinking of the beautiful young wife with whom I would astonish them, one of these days!

"Here's a letter for you, Jim," said one of my cronies, bursting into my room, where I sat alone. "I met the messenger on the stairs, and rifled him of his burden."

He tossed it into my lap, and sat down to enjoy his cigar, while I eagerly tore open the perfumed little missive, sealed with the crest of Mme. Delarue.

"Why, what's the matter?" exclaimed my companion, as I sprang up, pale and agitated, scarcely knowing whither to turn.

"The matter! Why, some confounded young collegian or other has been making love to my Winnie—and she wants to marry him—and madame has just discovered the affair de cour, as she calls it—hang her French phrases!"

"And you are going on to give the young folks your blessing?"

"My blessing—no, I should rather think not. I'm going to give the boy a good horsewhipping, and place Winnie where she'll forget him!"

It was nearly noon when I drew up my horses in front of the iron gates to Mme. Delarue's seminary.



"GIVE ME A PENNY, PLEASE, SIR?"

I was kept waiting in the parlor considerably longer than I liked, after having sent up my card to "Miss Winnie Grey" (the name I had selected for her), particularly as I was conscious of a good deal of tittering in the hall, and several pairs of bright eyes regarded me from the cracks in the half-open door.

"Did you want to see me, sir?"

I turned, completely astounded. There stood a tall, lank, lathy sort of a girl with red curls—not auburn, not golden, but a carrotty, unmistakable red—weak brown eyes and freckles.

"Are you Winnie?" I exclaimed.

She nodded bashfully, murmuring something about my having sent for her.

Alas! what an overthrow to the vision of eight years!

I asked her a few questions about her studies, counseled her to "be a good girl," and "mind her music," and gracefully took leave!

In the hall I met Mme. Delarue, all in a flutter.

"Are you going already, Mr. Rivers? Pray wait a minute to do about this naughty, dear child?"

"O, well, madam," quoth I, carelessly, "I'm not the one to interfere with the happiness of young people. Pray make all inquiries into the respectability of this young man."

"Most respectable, sir," interrupted madam, "of a most wealthy and respectable family."

"Of course—well, I'm glad to hear it. I will write my consent to Winnie to-morrow, as I did not wish to embarrass her by any verbal allusion to this little affair."

And off I went, indescribably relieved to think I was not obliged to marry that girl.

I sent a cordial letter and a set of pearls to Winnie the next day, and received per post an affectionate and grateful acknowledgment of the same.

Then I plastered my wounded feelings by a trip to the Far West. After an absence of three months I returned sun-burnt, jovial, and heart-whole to my den in the hotel!

"Very nice to be at home again," was my first reflection. "Now, I hope that not a soul will come near me to-night, for I want to enjoy at least one quiet evening in my old quarters!"

Vain hope! were not the knuckles of the waiter at that instant on my door? Did he not bring up the card of some visitors who had seen my name on the hotel books, and were determined to invade my peaceful sanctum?

"Mr. and Mrs. Lansing Wyndham!"

Now, Lansing Wyndham, I knew, was Virginia's brother, but what did I care for him? I turned the card over and over reflectively.

"Show them up!" at last I exclaimed in desperation.

A moment elapsed, just a moment, before I was electrified by the loveliest young creature I had ever beheld bounding into the room and throwing her white, pearl wreathed arms about my neck, with a succession of kisses that seemed like a bunch of Chasselas grapes, or a cluster of roses, or anything else which was delicious.

It was my Winnie—the realization of my youthful fancies—superbly beautiful in her young bridehood. I saw it all in that one dizzy glance just as it had passed beyond my reach forever—my lovely dream of Winnie.

"And this is my husband," said Winnie, smilingly beckoning to the handsome young fellow who stood in the doorway.

"But look here, Winnie," said I, solemnly, "this isn't fair! You are not the young person I saw at Mme. Delarue's."

"No," said Winnie, blushing and laughing, and hiding her face in her beautiful jeweled hands, "but—but—there was another girl named Winnie there, and I was afraid you would scold me, and we thought it wouldn't be a very naughty thing for her to personate me, just for once."

It never occurred to me until afterward that the marriage of my Winnie to Virginia Wyndham's brother savored somewhat of "righteous retribution."

But Miss Wyndham, herself, viewed it in that light, I am told. Somehow old bachelors and old maids see these things differently.—*Boston Globe.*

Good News for Asthmatics.

We observe that the Kola plant, found on the Congo river, West Africa, is now in reach of sufferers from Asthma. As before announced, this new discovery is a positive cure for Asthma. You can make trial of the Kola Compound free, by addressing a postal card to the Kola Importing Co., 1164 Broadway, New York, who are sending out large trial cases free by mail, to sufferers.

Want the Nicaragua Canal.

The possibility of shipping hay to Europe makes one sigh for the Nicaragua canal. That highway would bring to the front in such trade. As England likes clover hay, we could give her first quality lucerne or alfalfa in unlimited amount.—*Pacific Rural Press.*

SHEPHERD DOGS.

How the Animals are Trained for Practical Use in South America.

In South America, in the region of the great pasture plains, dogs are trained to be shepherds. The dog goes out alone and takes the entire care of the sheep without anyone's direction.

In South America there are vast plains where for miles and miles there is little vegetation save the short grain on which sheep feed. On these vast pastures there are immense flocks, which are often left for several days at a time with only a dog to take care of them.

When "Colly" was only a day old he was taken away from his own mother and given to a big, motherly sheep. She let the little blind puppy share the dinner of her own baby lamb. His little bed was in a warm, soft nest made of the sheared fleece of a sheep.

He was never allowed to taste of meat. He was not permitted to associate with other dogs or with children. His only associates were sheep.

Consequently all the strong friendship, all the loyalty, all the protecting instinct which belongs to a good dog's nature were turned toward sheep. The little dog grew to love sheep, to play with sheep, and above all to watch over sheep and protect them.

No hungry stranger could approach one of these big, wandering flocks in the vast and lonely plain and help himself to a lamb without being noticed. No! At the first sign of a stranger the dog barks.

Then a remarkable sight is to be seen. The oldest and strongest ram of the flock advances to the dog's side. All the other rams come forward and take their places near by, facing the foe. The ewes and the lambs huddle closely together behind their defenders.

The dog does the talking for the whole party and gives all the orders, acting the part of a Commanding General, but the rams with their cruel horns and strong heads do the fighting.

Sometimes when the owners have sheds near enough the dog drives the flock out to pasture and brings them back in the evening. No matter how large the flock may be, he knows if even one sheep is missing and he goes out and hunts for it until found.

Barter in Oregon.

Wm. Isaacs, says the *Shasta Courier*, has returned from a trip to Oregon. He reports that in Webfoot "times are so hard that farmers combine to harvest crops and pay their hands in sheep and coyote pelts. When an Oregonian wants a drink he goes into a saloon, throws down a sheep hide, gets his drink and the bartender hands out nine rabbit skins for change. It is a sort of skin game all the way through."

THE APIARY.

A GENERAL CHAT.

Mr. Tefft on a Variety of Subjects—The Improved Hive.

EDITOR AMERICAN FARMER: Each one of us is bound to make our bee circle in which we live better and happier. Each one of us in convention and in literature is bound to see that out of the circle the widest, good shall flow. Each one of us may be fixed in thought that out of a single colony of bees may flow influences that shall stimulate the whole bee world as well as our commonwealth. But how are we to do it? All bee literature of to-day is in the hands of the bee-implément manufacturer or his henchman.

In all delay in care for the bees there is a loss, although we cannot compute or measure it. We may rest assured that it is one that can never be made up. Therefore, if we beekeepers mean to pay our debts, to discharge our obligations, to account justice to our bees, to show gratitude for what they have made for us, let us help them by proper protection and food when they need it and shelter them from the winter's cold. Let us do this promptly and without delay, for only in this manner can we justly, faithfully, and truly attend to our duties.

A beekeeper may betray the truth by his unreasonable zeal, as he destroys its salutary effects by the economy of his manner. Whoever would be a successful bee instructor must be firm, mild, affectionate, fond of his bees. A competent bee master workman will show his appreciation of a superior beehive in the care he will take to study out the inventor's ideas and in the work he will make it accomplish. You will never find a master beekeeper, for instance, risking the ruin of his reputation and the bees and hives by forcing them to do work they never were intended to do.

It was Socrates, I believe, who once remarked: "All we know is nothing can be known." Had the wise old Grecian lived in these smart days he would have been forced to admit that at least some beekeepers know more than others.

For the life of me, I cannot see why beekeepers want self-swarming or self-swarming hives, drone traps, queen excluders, honey boards, or to clip the queen's wings. These six things in beekeeping are not at all necessary. They are useless, worthless, and a burden, as well as costly, not only for what they cost, but in the time wasted in experimenting with them. Even the originators have little or no faith in them. For years I have produced as much honey per colony as any beekeeper, and have not used any of the above-mentioned appliances. I manage my bees on the simplest known process, with nothing but veritable frames, surplus box, and separator.

Ten years ago I conceived the idea that a brood frame should also be the section holder. In order to accomplish these ends that could not be done with the frames now in use, the size of the frame had to be made the same as that of the old eclectic frame, which is 10 x 15, inside measurement. A frame of this size will take eight sections 13 x 33 x 5.

In thinking out the matter I saw that a frame one and one-half inches wide and the eight opposite corners left a self-spacing frame at the top as well as at the bottom. A frame thus constructed prevents any and all shifting or swinging when the hive is in transit. It also spaces the comb true at top and bottom.

In order to explain fully, I will tell just how I now make them. The top and bottom bars are 16½ inches long by one and one-half inches wide. From the four opposite corners I recess them just by space enough, the full length of the bars. The end bars are 10 inches long by one and one-half inches wide, and are recessed in the same manner. This gives a frame that is reversible, also interchangeable, intended for all purposes, and gives universal satisfaction.

These frames solve some difficult problems. They, when properly managed, will prevent swarming every time; hence we keep a large army at home gathering honey all through the season which gives treble the profits of the old swinging suspended frame. The frame is very simple and far easier to manipulate than any other frame I ever used. There are so many good objects obtained by its use that it would take several articles to explain them all. I will dwell upon one object in this, which I think of vast importance.

All know just previous to the harvest bees prepare to swarm. Always at this time I lift one frame of brood, uncup the sealed honey, reverse the frame and replace. Sometimes I uncup four in the same manner. The honey now being uncapped and in its unnatural position at the bottom of the hive; the bees will at once commence to carry the honey above the brood to the surplus sections; the queen will at once stop up the entry cells; hence we have the brood in solid shape in frames below and solid honey above.

This obviates the necessity of a machine extractor as well as a new hive for the swarm. One other point: My surplus chamber is large, admitting 10 frames or more; thus, when we have more frames of brood below than we want, then we lift three or four frames of ripe brood and place it in one end of the surplus chamber and crowd in a division board. This is what I call my hatchery apartment. Of course, we replace empty combs in the place they came from for the queen. You will perceive I have no honey in the brood chambers at all during the honey harvest, and when managed *comme il faut* there is no swarming.

No one can realize how much more comfortable I feel when manipulating bees when they are in these frames; not one quarter the stings, not one quarter

the time to go through the hive of the most populous colony, and nearly twice the amount of comb honey. This frame and its combinations I had patented in 1886, thinking it worth something; also to keep the pirates from taking it, as they have several other of my inventions. Now, don't write for prices of my hive, as I have none for sale, and probably never will. I am simply answering several parties who want to know how I produce so much comb honey and of a better quality than they can or do.—J. W. TEFFT.

QUEEN REARING.

Prospects of Better Prices if the Honey is Held In.

EDITOR AMERICAN FARMER: In queen rearing we should keep our nuclei a good distance apart, as we lose more young queens by returning to the wrong hive than by all the other mishaps that we have. We have our bees here at home this year in a grove, and the boys have a ladder, and they place some nuclei up in trees, and not one single queen was lost, as the nuclei were 10 to 15 feet from the ground. The young queens are very easy to be led wrong by the bees of neighboring hives; for instance, at about the time the queens want to fly out the bees are usually taking their play spells, and making such a noise that the young queens are bewildered. One fine evening, this Summer, we found four virgin queens that had fled out and had returned to the wrong hive—Isay virgins, but they had all mated except one, and I suppose she had not flown, and belonged to the hive. Well, these hives were placed in a straight row around our front yard and were about 10 feet apart, but all alike, and all faced the same way, and the queens would get mixed every time, more or less, so we moved them out. Now, we have our 300 nuclei here in the home yard scattered nearly all over a 10-acre lot. I know it is a heap of trouble and extra labor to run over so much ground, but we find it more profitable than to lose so many queens.

Bees have done very well all over this State, or at least from all the districts that I have heard from. We have now had plenty of rain, and we expect a good fall flow of honey on top of our already good season, which will make the yield enormous. If any of the readers of this paper have any unfinished sections, try Dr. Miller's feeders to get them finished; some of our neighbors are trying them here, and the prospects are they will make a success of it.

If you are in shape to hold your honey till later, the chances seem good for better prices. We have had several offers for a car load of section honey, but have not yet sold any. I would like to see honey bring enough to pay for raising and some left for profit, but I do not care to see it too high, as that would place it beyond the reach of the laboring classes, which are the ones that use the most honey; so there are extremes both ways. Beekeeping seems to be on a higher plane now in the South than at any other time in our history, and I trust it may so continue, as the South is the paradise of the little busy bee, and our fields are almost unlimited and room here for thousands of hives of bees to gather the precious God-given sweets that go to waste every year. Our State is preparing to establish a branch of the State Agricultural College at Beeville, and if they do we are going to try for a bee experiment station in connection, which would be of great benefit to us. Some have asked if buckwheat does well here. Yes, it grows well, and will make two crops, one in the Spring and one in the Fall; but I have failed to see that our bees gathered much honey from it, as there seems to be something else in bloom at the same time it does that the bees like better, but it makes a good wheat. I may come again soon with something better.—*MRS. JENNIE ATCHLEY.*

ADULTERATED HONEY.

Analyses at Hand for the Detection of the Spurious Article.

Prof. Cook, in a recent bulletin of the Michigan Agricultural College, says that chemists can easily detect adulteration of honey by use of glucose, in all cases where it is likely to be practiced. The same would be true if cane sugar sirup was mixed with the honey.

That a probable method to distinguish honey-dew from honey adulterated with glucose has been determined by the analyses. The right-handed or slight left-handed rotation, together with the large amount of ash, and small amount of invert sugar indicate honey-dew honey. As honey-dew honey will never be put on the market, this question is of scientific rather than practical importance.

As yet the chemist is unable to distinguish between cane sugar sirup honey (by which we mean cane sugar sirup fed to the bees and transformed by them into honey, and not cane sirup mixed with honey, which is adulteration pure and simple, though a kind not likely to be practiced), and honey from flowers. As the best cultivated taste cannot thus distinguish, this seems of slight importance. If it should prove to be important to be able to distinguish them, it is probable that the chemist will discover the means, as chemistry has very delicate eyes, and can usually search out very slight differences.

We see that there are yet unsolved problems in this direction, and it is desirable to follow up the investigations. Prof. H. W. Wiley is desirous to do so until the last fact is discovered. To better accomplish this he desires samples of three or four pounds each of honeys from any known source, especially honey-dew honey, and that gathered very rapidly. Sugar-sirup honey will also be very acceptable. Such samples may be sent to Prof. H. W. Wiley, Division of Chemistry, Department of Agriculture, Washington, D. C. The express will be paid by the Department of Agriculture.

THE GARDEN.

Pluckings.

Harvest the onions this month. It is not yet too late to plant snap beans.

Flat English turnips may be sown this month.

Onions should be gathered as soon as the tops die.

Strawberries set out this Fall will bear next season.

Deep culture of tomatoes is far better than shallow.

Celery plants are set during the early part of this month.

Blackberries may be planted either in the Fall or Spring.

Nitrate of soda is beneficial to almost all fruits and vegetables.

Turnip sowing may be continued until the middle of this month.

Those who have bagged their grapes this year report encouraging results.

Raspberries, with the exception of Blackcaps, can be planted in the Fall.

Mulched tomatoes produce larger crops than those that are not mulched.

In a garden at Lexington, Fla., there are said to be 122 different varieties of roses.

Market gardeners are preparing the land and sowing turnips and lettuce for the late market.

The loss by shrinkage of vegetables stored in cellars is very great; some claim it to be as high as 40 per cent.

Turnips will produce larger crops when weeded, but they will do well on the average ground if not cultivated.

To get the best results with raspberries, cut out old wood and all weak stalks as soon as the bearing season is over.

Truck gardeners should always try to supply the wants of the home market. Very often a good home market is overlooked by gardeners in their anxiety to ship to the large cities.

After the potato vines have died down, the bugs that were on them are apt to attack the other plants, especially the eggplants, but they can be killed by applying Paris Green.

After the potatoes are dug, throw the old vines in heaps and burn as soon as dry enough. In this way spores of fungus may be destroyed, which would do much damage another year.

The orange rust which is so destructive to our raspberries may be expected to make its appearance at any time now. All bushes attacked by it should be dug up and burned before they spread the disease to the ones around them.

Hints for the Garden.

EDITOR AMERICAN FARMER: Vegetables should be grown rapidly, to be tender and sweet. Never at any time let them be stunted. The garden should not be made so large that proper attention cannot be given to all parts of it. From the time the seed is planted until the vegetable is gathered it must have constant care to produce a first-class article. In the first place, land should be selected for the garden that is free from weed seed, and is naturally in good condition, then barnyard manure should be applied. There are many vegetables that are almost valueless if not grown rapidly. Among these are the eggplant, Brussels sprouts, and cauliflower. In many gardens these plants grow well until time for them to mature, when without any apparent cause they cease to grow. This is generally caused by lack of plant food or lack of moisture. When the heads begin to form an application of liquid manure once a week will greatly increase the size of the plant. One of the best ways to apply this manure is to fill a large barrel with barnyard manure and pour water on this and let it run through the manure and into another barrel that is below it. Then it can be taken out and applied to the plants. It costs very little to do this, and the vegetables will more than pay for the trouble by their increased size and their better flavor.

Strawberries.

EDITOR AMERICAN FARMER: Strawberries will do well on any soil that will raise good vegetables or garden crop. Before planting the ground should be plowed to a depth of 16 to 20 inches and then thoroughly harrowed. If the ground is naturally wet it must be drained before the vines are planted; they do not do well on damp ground. When only enough are planted for home use it is best to set in beds.

It is best to make the beds about four feet wide, with a passageway of two feet between them. This gives room for the picker to pass through the patch without stepping on the vines. When planted in this way the picking is very easy. The vines are never allowed to run in the path. In each bed are planted the rows of vines, the plants being about 15 inches apart each way. Hill culture is practiced by many of our market gardeners with good results. By pinching off the runners as soon as they appear large crowns are obtained which give the plant a bushy appearance, and will produce fine, large berries the next season.

In some parts of the country a covering is necessary during the Winter. Where the snowfall is heavy the plants do not need any cover, but it is best to be on the safe side and scatter leaves, corn-fodder, or straw thinly over the patch. Do not cover before the ground has frozen. Too early covering is worse than none at all. Whatever is thrown over the vines should be removed early in the Spring before the plants begin to grow. Cultivate during the Spring, and just before the fruit begins to ripen a mulch may be given them. This will keep down the weeds and also prolong the season, as the soil under the mulch will be moist even during a severe drouth.—*Rice.*

THE POTATO CROP.

From all Indications the Yield will be Very Small.

The report of the Statistician of the Agricultural Department for the month of August says: The average condition of potatoes has declined nearly nine points in the last month, and now stands at 86. This is a low condition so early in the season. A lower, in the month of August, has only occurred twice in the last decade; in 1887, when the returns averaged 80.8, and in 1890, when the percentage fell 14.3 points between July and August and averaged 77.4. Very decided losses have occurred in Massachusetts, 97, 87; New Jersey, 81, 69; Pennsylvania, 93, 84; Maryland, 91, 79; West Virginia, 99, 86; Ohio, 95, 81; Indiana, 98, 75; Illinois, 98, 80; Wisconsin, 96, 85; Minnesota, 93, 74; Kansas, 88, 77; Nebraska, 90, 61, and as large losses have been suffered in some other States of less commercial importance.

This large decline is attributable almost entirely to the general and severe drouth. "Unless rains come soon," write many correspondents, "the crop of potatoes will be a failure." They complain, also, that the dry weather has greatly lessened the yield of the early planted, as well as damaged the growth of the late. The period to follow between this and the next report is critical; the weather conditions will be watched with more than ordinary interest.

The Colorado beetle must be charged with a part of the responsibility for the decline in condition in Ohio and some other of the Western States.

Sweet potatoes.—This crop has suffered with the others from the prolonged spell of dry weather, but fortunately this has not been as severe in the South Atlantic and Gulf States, with the exception of Texas, perhaps, as in other sections of the country. The condition generally is good in the principal producing States, whose percentages are as follows: North Carolina, 92; South Carolina, 93; Georgia, 94; Alabama, 88; Mississippi, 92; Louisiana, 99; Texas, 79; Arkansas, 95; Tennessee, 91; Kentucky, 92; Ohio, 86.

The Oregon Blackberry.

EDITOR AMERICAN FARMER: An item in your valuable paper calls my attention to the Oregon blackberry. There is only one wild blackberry here. It is the best flavored one in the world. It is an evergreen vine and runs, but can be turned on to racks, brush fences, etc., and takes but little room. Millions of gallons are picked every year in Oregon and Washington. Large camping parties will go into the mountains, kill elk, deer, grouse, pheasant, and trout, and dry and can blackberries. We have a large, wild raspberry here which grows on large, stout, upright canes, and is so prolific and wild that we all like it.—*C. BEAT, Cathlamet, Wash.*

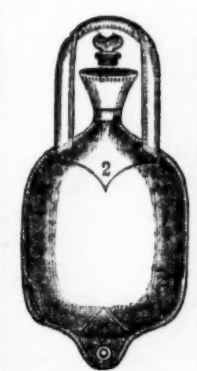
A New Short Line to Florida.

Railway companies having Florida connections, the traveling public generally, and especially orange and vegetable growers throughout the State of Florida, are very much interested in the new short line now under construction between Savannah and Jacksonville by the Florida Central & Peninsula Railway Company, which is under contract to be completed Oct. 1, 1893. This company having acquired control of the South Bound Railroad between Columbia and Savannah, gives it a continuous line, under one management, between Columbia, Savannah, Jacksonville and Tampa, which, in connection with the Richmond & Danville Railroad from Washington, via Danville and Charlotte to Columbia, comprises the shortest line between Eastern cities and all points in Florida, and will greatly reduce the present schedule time.

This reduction in time is a matter of the greatest importance to the large orange and vegetable industry of the State of Florida, and shippers and growers are anticipating a considerable increase in this business during the coming Winter. The Richmond & Danville Railroad and its ally, the Florida Central & Peninsula Railway, therefore, as soon as the line between Savannah and Jacksonville is completed, will make the schedules of only express but freight trains so much shorter than that of other routes now handling this business that a great impetus will be given to passenger travel and to the important and lucrative industries of orange and vegetable growing, besides contributing largely to the comfort of the thousands of tourists and invalids who are accustomed to pass the cold months in the delightful Winter climate of the Crocodile State—*Republic, Washington, D. C.*

HOT WATER BOTTLES.

With Handles and Covered Nozzles.



Hot Water Bottles

Greeting: This paper is sent you that you may have an opportunity to see it and examine it, with a view to subscribing. We ask you to compare its contents, objects, and price with those of other papers, and see if you do not come to the conclusion that you ought to have it; that you cannot afford to do without it. We can assure you that if you send in your name for one year that you will find it one of the most profitable investments that you can make. We hope to make and keep it so interesting that you will think that every number more than repays you for the subscription price for a year. Please call your neighbor's attention to the paper.

A GRAND CHANCE.

The Cosmopolitan Magazine and The American Farmer Both for \$1.75 a Year.

The great illustrated monthlies have in the past sold for \$4 a year. It was a wonder to printers how *The Cosmopolitan*, with its yearly 1,536 pages of reading matter by the greatest writers of the world, and its 1,200 illustrations by clever artists, could be furnished for \$3 a year. In January last it put in the most perfect magazine printing plant in the world, and now comes what is really a wonder: We will cut the price of the magazine in half for you! Think of it, 128 pages of reading matter, with over 120 illustrations—a volume that would sell in cloth binding at \$1—for only 12½ cents. We will send you *The Cosmopolitan Magazine*, which has the strongest staff of regular contributors of any existing periodical, and *THE AMERICAN FARMER* both for only \$1.75 a year.

THE CORN CROP.

There are 2,500,000 acres more corn this year than last, making a total of 72,869,000 acres, and the product is estimated at 20 bushels per acre, against 22 last year. This means a total crop of 1,750,000,000 bushels, or 137,000,000 bushels more than last year, and 310,000,000 bushels less than the great crop of 1891.

The great demand for meat products will make a ready use for every bushel of this, and a well-filled corncrib will be a mighty pleasant object for the farmer to contemplate.

THE LIVE STOCK EXHIBIT.

W. L. Buchanan, Chief of the Department of Agriculture, in charge of the Department of Live Stock at the World's Columbian Exposition, writes us to particularly impress upon the readers of *THE AMERICAN FARMER* that the date for closing entries for the Fat Stock Exhibit has been extended until September 20. The exhibit will begin October 16 and close October 28.

It is earnestly hoped that this exhibit will prove as great a success—and there is every indication in its favor—as the magnificent exhibit of breeding animals now in progress.

All entries should be addressed to the Chief of the Department of Live Stock World's Columbian Exposition. Copies of the official premium list can be had by addressing the Chief, Hon. W. L. Buchanan, at Jackson Park, Chicago.

The country is saddened by an apparently well-founded report that President Cleveland is in very bad health, and has been compelled to submit to a surgical operation by which several inches of dead and diseased bone were removed from his left upper jaw. There are hints of the existence of a cancerous growth, but happily so far these are merely hints, and have received no confirmation by the attending physicians. Every one in the country hopes that the tumor and bone which have been removed are of non-malignant nature, and that the President will recover rapidly and completely. There is ample room for this hope. Mr. Cleveland has a wonderful constitution, and this is strongly in his favor.

THE COMMITTEE ON WAYS AND MEANS.

Of the greatest importance to the farmers at this juncture is the composition of the House Committee on Ways and Means, for this will have charge of all matters relating to the tariff, and will prepare and steer all revenue bills presented to Congress. In the last Congress the committee was made up as follows:

Wm. M. Springer, Illinois (D.).
Benton McMillin, Tennessee (D.).
H. G. Turner, Georgia (D.).
Wm. L. Wilson, West Virginia (D.).
A. B. Montgomery, Kentucky (D.).
J. R. Whiting, Michigan (D.).
J. B. Shively, Indiana (D.).
W. Bourke Cochran, New York (D.).
Moses T. Stevens, Massachusetts (D.).
Wm. J. Bryan, Nebraska (D.).
Thos. B. Reed, Maine (R.).
J. C. Burrows, Michigan (R.).
S. E. Payne, New York (R.).
John Dalzell, Pennsylvania (R.).
A. J. Hopkins, Illinois (R.).

It was this committee which proposed to make the main tariff reduction on wool duties, and prepared and pushed through the House the bill exempting from duty after Jan. 1, 1893, "All wools, hair of the camel, goat, alpaca, and other like animals, and all wool and hair on the skin, all noils, top waste, slubbing waste, roving waste, ring waste, yarn waste, card waste, burr waste, rags, and flocks, including all waste on rags, composed wholly or in part of wool."

This bill also reduced the 30 per cent. *ad valorem* duties on woolen goods to 25 per cent., the 35 per cent. duties to 30 per cent., the 40 per cent. to 35 per cent., and repealed specific duties per pound or square yard.

This bill passed the House April 7, 1893, by a vote of 194 to 60, the Democrats, with the exception of Babbitt and Miller, of Wisconsin, and all the Populists, voting for it, and all the Republicans against it.

An important change has been made in the committee for this Congress by the removal of Mr. Springer from the Chairmanship, and the promotion of Wilson, of West Virginia, who stood fourth on the old committee, to the Chairmanship, over the heads of McMillin, of Tennessee, and Turner, of Georgia.

The new committee stands:
Wm. L. Wilson, West Virginia (D.).
Benton McMillin, Tennessee (D.).
H. G. Turner, Georgia (D.).
A. B. Montgomery, Kentucky (D.).
J. R. Whiting, Michigan (D.).
W. Bourke Cochran, New York (D.).
M. T. Stevens, Massachusetts (D.).
W. J. Bryan, Nebraska (D.).
C. R. Breckinridge, Arkansas (D.).
W. D. Bynum, Indiana (D.).
J. C. Tarnsey, Missouri (D.).
T. B. Reed, Maine (R.).
J. C. Burrows, Michigan (R.).
S. E. Payne, New York (R.).
John Dalzell, Pennsylvania (R.).
A. J. Hopkins, Illinois (R.).
J. H. Gear, Iowa (R.).

Analysis of this membership shows that the Chairman is a lawyer by profession, who represents a district lying wholly in the mountains, and who, consequently, should be better inclined to the protection of the wool industry than his speeches and votes so far show him to be. He was a strong advocate of the Free Wool Bill in the last Congress, but the greater responsibility now thrown upon his party by its having entire control of the Government may make him more conservative.

Benton McMillin, the second on the committee, is a lawyer, who represents an agricultural district in middle Tennessee. It is unlikely that he will show any strong friendship for wool, though there are many sheep in his district, but he will be more favorably inclined to tobacco. The third member, Turner, represents the southeastern corner of Georgia, and if he has any interest in agricultural duties it is in those on semi-tropical fruits. His district ought to also raise a great deal of rice, but we are not aware that it does so.

A. B. Montgomery is a lawyer, who represents a rich agricultural district of Kentucky, and which is probably interested in the retention of the duties on tobacco.

J. R. Whiting is a merchant and manufacturer, who represents an agricultural and manufacturing constituency in Michigan.

W. Bourke Cochran is a Tammany lawyer, who represents one of the New York City districts, and is directly in the interest of importers and unrestricted free trade.

Moses T. Stevens, of Massachusetts, is a manufacturer of woolen goods and President of a National bank. The manufacturers regard him as their special champion of free raw material, while aiming to secure all the protection possible for manufactured products.

W. J. Bryan is a lawyer, who represents a rich farming district in Nebraska. He was one of the framers and advocates of the Free Wool Bill.

C. R. Breckinridge is an old member of Congress, but a new member of the committee. He is a lawyer, and represents a district in southern Arkansas, in which cotton is the principal product.

W. D. Bynum is a lawyer, who represents the Indianapolis district, and is a "Tariff for Revenue" Democrat.

John C. Tarnsey is a lawyer, who represents the Kansas City district of Missouri. He is a loud talker for free trade.

Ex-Speaker "Tom" Reed represents a manufacturing district in Maine, and is a radical Protectionist.

Capt. J. C. Burrows represents a very active manufacturing and agricultural constituency in Michigan, and is an out-and-out Protectionist.

Sereno E. Payne is a lawyer, who represents the Auburn district of New York, and is a strong Protectionist.

John Dalzell is a lawyer, who represents the Pittsburgh district of Pennsylvania, and is an earnest advocate of protection, at least for iron manufacturers.

A. J. Hopkins is a lawyer, who represents a rich agricultural district in Illinois, and advocates protection on all farming products that need it.

Ex-Gov. John H. Gear is a merchant, who represents a rich farming district in the southeastern corner of Iowa, and is a thorough-going Protectionist.

The composition of the committee is certainly not a favorable one for farmers' interests. The majority in all probability favor a strong reduction of the duties on wool, if not their entire abolition. They may feel more favorably toward rice, semi-tropical fruits, and tobacco, but eggs, barley, hay, domestic animals, etc., seem to have no special friends among the majority of the committee.

AS TO THE PROTECTION ISSUE.

Opinions are divided as to whether the extra session will be adjourned without beginning the work of tariff revision or not.

It seems to be taken for granted that the Administration and its immediate friends desire this. They claim that the extra session was called merely to repeal the so-called Sherman law, and this done, it should be promptly adjourned.

On the other hand, no man can tell when the Senate will reach a vote. It may discuss the matter a fortnight, and it may talk over it one or two months. There is no way of closing a debate in the Senate as long as any man or set of men who don't want it closed are able to stand on his or their feet and talk. The Senators are the Embassadors Extraordinary and Ministers Plenipotentiary of the sovereign States, and when any State chooses to raise her voice in the Senate she is entitled to be heard and to talk as long—and loud, too, for that matter—as she wishes, and no other State dare say nay to her. Senator Teller, of the sovereign State of Colorado, gave notice to his brother Senators last week that he had brought his Winter clothes with him, and was prepared to stay until the Potomac was frozen over in order to defeat unconditional repeal. As the House must remain in session while the Senate does, it follows that it must have something to do while the Senate is listening to endless speeches, and this supports the belief that it will take up the tariff. The Committee on Ways and Means has, it is said, even now begun the consideration of a bill to present to the House. This, however, does not necessarily imply any speedy action, for no man knoweth how long it will take the committee to formulate a bill. They may decide upon piecemeal legislation, as the committee did in the 52d Congress, and reintroduce the bill to put wool on the free list, and go on in that way through the entire revenue list. They may decide promptly on a "horizontal reduction," as Chairman Morrison once proposed, or they may go over the entire matter, item by item, patiently hear from the interests affected, and take months to formulate the measure. So far the only hint as to the purposes of the committee are some expressions against the piecemeal method adopted by Chairman Springer.

The country urgently desires whatever is to be done be done quickly. The uncertainty and suspense is worse than any reality, because it paralyzes all business and seriously hinders the resumption of good times. There are, for example, 350,000,000 pounds of wool in the country which are practically unsalable, even at free-trade prices, because manufacturers and dealers will not buy at any price until they know whether the immense stocks of

wool and woolen goods of England and Germany are to be dumped on this country without restriction. Though their own stocks are run down to the lowest level, they will buy nothing except to supply immediate needs. This is shown by a sale of only about 1,600,000 pounds of wool in the different markets last week, against a sale of over 7,000,000 pounds during the same week last year.

THE AMERICAN FARMER awaits the action of the Committee on Ways and Means with much anxiety. It is ready to make the most determined fight against any reduction of the duties on wool or any other farming product, if that course is determined upon. It will oppose to the uttermost every proposition to reduce the tariff on a single agricultural product. Not one of these is too high; not one is in any way oppressive, and the retention of every one is demanded by the best interests, not merely of the farmers, but of the whole country. The farmers have been receiving far too little protection instead of too much, and there should be much more legislation for their benefit instead of less. With the other features of the tariff we have nothing to do. Let those interested care for them, as they have done in the past. Our sole care is for the farmers.

Above any other article of political faith, we believe most strongly that the soil of this country should raise every pound of rice, every bushel of barley, every ton of hay and broom corn, every pound of sugar, honey, and cheese, every pound of tobacco, hemp, and flax, every lemon, orange and banana, every dozen of eggs and box of raisins, every pound of wool and cotton, every bushel of potatoes, castor beans, flax seed, beans, peas, onions, that our people need, and our mission is to make the most determined opposition to any and all schemes for the reduction of the profits on agriculture by bringing the products of foreign soils into injurious competition with those of our own.

We need protection that our farmers may develop the country to the utmost, and make it and themselves in the highest degree prosperous.

THE AMERICAN FARMER is the only great paper in the country that is making this fight for the farmers and for the farmers alone. It is located at the Capitol of the Nation, where it can fight to the best advantage, and we earnestly urge every man who feels that farmers are making too little money rather than too much to join us in the fight for farmers' interests. We earnestly solicit him to do whatever he can to help in the contest that is now about to begin in dead earnest by exerting himself to send us in subscribers and extend the circulation of the paper. It will be a powerful influence in the farmers' behalf, and the more circulation it has the more good it can do.

Let every man who believes in this cause testify it by sending in his own name and a club of his neighbors.

THE WHEAT CROP.

There were 2,565,000 acres less of wheat this year than last, a reduction of about one-fifteenth, or seven per cent. This reduction was almost wholly in the nine States which produce much more wheat than they consume. The condition of the wheat was scarcely anywhere so good as in the previous season. In July the difference in the Spring wheat States was 67, as against 74.1 for the same month last year.

It is much too early yet to make an accurate summing up of the yield, but the best estimates place it at 450,000,000 bushels, against 516,000,000 bushels last year. This is a diminution of 66,000,000 bushels. It is claimed that there were 40,000,000 bushels of the old crop in sight Aug. 1. Assuming this to be true, we have still a deficiency of 26,000,000 bushels below the needs of a normal year.

We shall be called on to supply Europe with from 150,000,000 to 200,000,000 bushels.

We shall need at least 365,000,000 bushels for seed and to feed our own people.

The matter then figures up about this way:

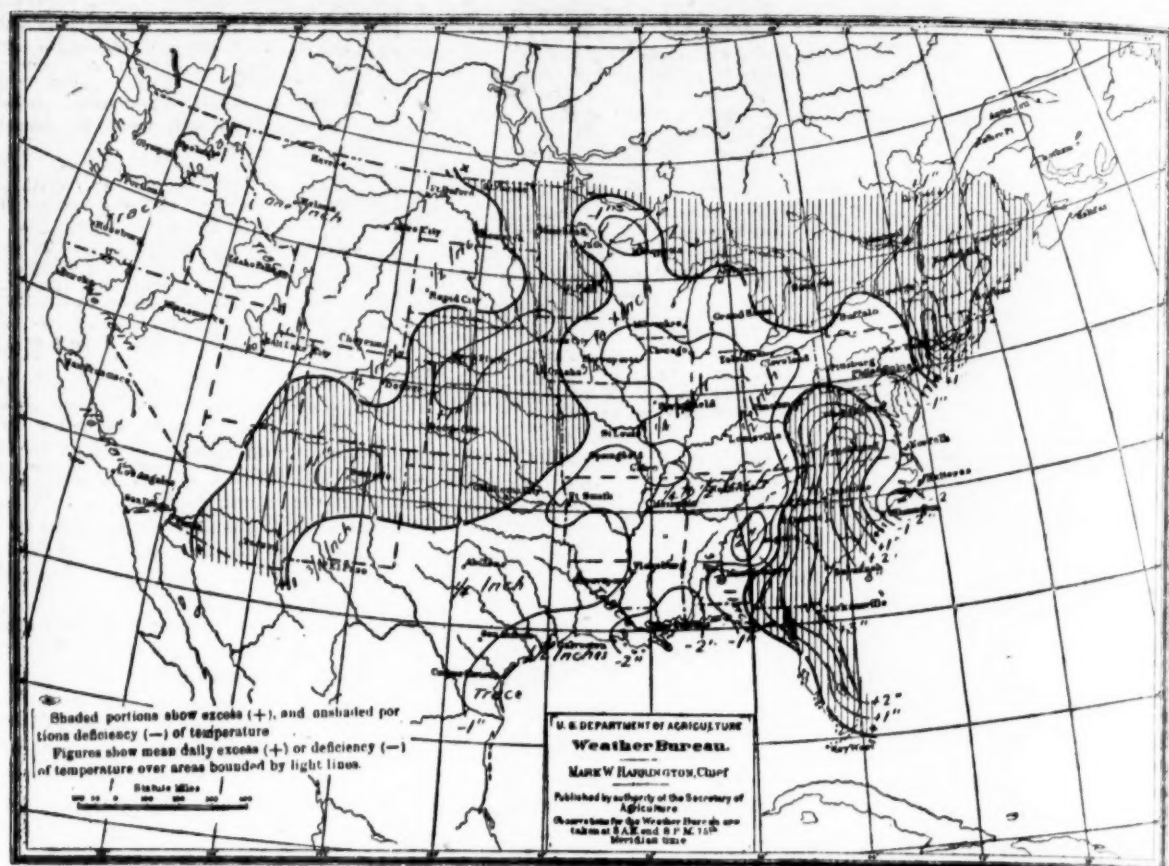
Total supply.	Bushels.
New crop.....	450,000,000
Old crop—in sight.....	40,000,000
Old crop in farmers' hands.....	16,000,000
	506,000,000
Total demand.	Bushels.
At home.....	265,000,000
From Europe.....	200,000,000
	465,000,000
Apparent deficiency.....	50,000,000

It seems to us clear that this cannot help causing a rapid advance in the price of wheat.

Not since 1856 have such low prices for wheat prevailed for such a length of time. The reaction is bound to come.

U. S. DEPARTMENT OF AGRICULTURE WEATHER BUREAU.

Departures from Normal Rainfall for the two Weeks Ending Aug. 28, 1893.



The two weeks ending Aug. 28 were generally warmer than usual in all districts east of the Mississippi, on the North Pacific Coast, and from Kansas southward over Indian Territory and Texas. The excess over the greater portion of the districts named was generally 2° or less, except over three comparatively small areas located, respectively, in Texas, Georgia, and on the Middle Atlantic Coast, where it averaged 3° per day. Very slight deficiencies occurred on the South Atlantic Coast and from southern Minnesota southward to northern Louisiana, where the average for the entire week exceeded 1° per day.

The week ending Aug. 28 was warm in all districts to the east of the Mississippi and in Texas. It was also slightly warmer than usual on the North Pacific Coast and in the interior of California. The excess in temperature was greatest in the interior of New England and the Middle Atlantic States, eastern Tennessee, and lower Michigan, where the average for the entire week exceeded 6° per day.

Hot and dry weather continued in the Ohio Valley, where crops have been injured in many sections by continued drought. The weather was cooler than usual in the Missouri Valley and Rocky Mountain districts, and frosts were reported in Wisconsin on Monday night, which must have caused some damage. The weather during the week was more favorable in the Northwest. Crops were generally improved in the States to the west of the upper Mississippi, while the conditions were unfavorable in the States of the Ohio Valley and in Tennessee. In the southern Rocky Mountain districts the season is reported as the most satisfactory for years, while in the northern Rocky Mountain districts the ground is dry, crops near ruin, and the ranges are in poor condition.

During the two weeks ending August 28 more than the usual amount of rain fell in New England and from Virginia southward to Florida, except on the immediate coast of Virginia and North Carolina. There was also more than the usual amount of rain over an area extending from New Mexico and Arizona northward to Minnesota, including Kansas and Nebraska. A marked deficiency in rainfall exists throughout the central valleys, Gulf States, and the Middle Atlantic Coast. In the last-named district, however, the rainfall accompanying the hurricane on the night of the 28th-29th was abundant. On the central Gulf Coast the deficiency in rainfall exceeds two inches, while it amounted to more than one inch along the Gulf Coast from western Florida to the Rio Grande, and northward to the lake region.

The week ending August 28 was dry throughout the central valleys, except in portions of Kansas and Nebraska. Over the greater portion of the region named crops are much in need of rain, especially from the lake region southward to the Gulf Coast. Excessive rains occurred over the South Atlantic States and over the greater portion of New England and the Middle Atlantic States, the rains having been accompanied by

severe gales attending the West India hurricane, which passed inland from Florida to northern New England, causing great damage to growing crops in eastern Georgia, South Carolina, and portions of North Carolina and Virginia.

General rains occurred in North Dakota and over portions of Minnesota, but the week was drier than usual from the Rocky Mountains westward to the Pacific Coast.

Drouth has been effectively broken over the greater portion of the Middle Atlantic States, but the extreme west portions of New York remain dry. Alabama reports cotton picking general and the week generally favorable, but all crops are in need of showers. Northwest Georgia reports that corn has been injured by drouth.

NEW JERSEY.—Severe gales on the 23d and 24th did great damage in all sections, especially to corn and orchard fruit, crops prostrated and, in heavy fields, badly twisted; peach trees uprooted and many stripped of fruit; heavy rains of immense benefit to growing crops, meadows, and pastures; ground now thoroughly soaked.

PENNSYLVANIA.—Heavy rainfall east of the Susquehanna River and north of the Fall Line, but high winds badly damaged corn and fruit; late crops and grass are much improved; very dry west of the Susquehanna and everything burning up; streams very low.

MARYLAND.—Crops generally improved by rains, except in some western sections where drouth continues; high winds prostrated much corn, injured tomatoes and caused great loss of fruit; wheat seeding begun.

VIRGINIA.—Normal rainfall in southern counties; heavy rainfall in northern counties; rainfall fairly distributed in southwestern counties; northeastern and valley counties report crops injured by lack of rainfall; 28th has doubtless damaged crops greatly.

NORTH CAROLINA.—Temperature somewhat above normal; week very dry until heavy rain of Monday, which was general over the State; drouth prevented growing crops from seed and preparing wheat land; cotton opening rapidly, with very little rain.

SOUTH CAROLINA.—Weather cool; from meager reports received great injury has been done to crops; cotton, young corn, and rice were blown down by the hurricane, which continued 18 hours. It is impossible at this time to give accurate conditions.

GEORGIA.—Scarcely any rain in western half of State; corn injured by drouth in northwest; destructive gales on Sunday and Monday in eastern counties; great quantities of turpentine timber felled; all crops late; heavy damage to cotton picking general in south.

FLORIDA.—Temperature slightly deficient; rainfall deficient in most sections; crops generally deficient in western portions; orange crop of eastern part of State injured by Sunday's rain; rainfall deficient in most sections; crops generally deficient in western portions; orange crop of eastern part of State injured by Sunday's rain.

ARIZONA.—Cotton opening fast, and picking becoming general; complaint of rain and worms; late crops injured by drouth; corn and rice are much in need of rain; especially from the lake region southward to the Gulf Coast.

NEVADA.—Temperature slightly below normal; sunshine and rainfall sufficient; conditions favorable for growing crops; corn, cotton, and wheat picking in progress.

UTAH.—Dry, sunny weather; conditions favorable for growing crops; corn, cotton, and wheat picking in progress.

IDAHO.—Dry, sunny weather; conditions favorable for growing crops; corn, cotton, and wheat picking in progress.

WYOMING.—Dry, sunny weather; conditions favorable for growing crops; corn, cotton, and wheat picking in progress.

NEBRASKA.—Dry, sunny weather; conditions favorable for growing crops; corn, cotton, and wheat picking in progress.

KANSAS.—Dry, sunny weather; conditions favorable for growing crops; corn, cotton, and wheat picking in progress.

OKLAHOMA.—Dry, sunny weather; conditions favorable for growing crops; corn, cotton, and wheat picking in progress.

TEXAS.—Dry, sunny weather; conditions favorable for growing crops; corn, cotton, and wheat picking in progress.

LOUISIANA.—Dry, sunny weather; conditions favorable for growing crops; corn, cotton, and wheat picking in progress.

MISSISSIPPI.—Dry, sunny weather; conditions favorable for growing crops; corn, cotton, and wheat picking in progress.

ALABAMA.—Dry, sunny weather; conditions favorable for growing crops; corn, cotton, and wheat picking in progress.

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OUR QUESTION BOX.

Answers to Some Inquiries from Our Subscribers.

THE COST OF INJURIOUS INSECTS.
EDITOR AMERICAN FARMER: Mr. A. had a discussion with Mr. B. about insects, and he claimed that the damage wrought by insects injurious to vegetation amounts annually to many millions of dollars. This statement is not believed by many, and we have decided to appeal to you for an answer. What are your ideas on the subject?—FRANK JOHNSON, Maryland.

Answer. Mr. A. is right in what he says. The farmers of the country have no idea of the damage done by the various species of insects. According to trustworthy statistics, this injury has often amounted to \$300,000,000 a year. Just think what an immense sum to be credited against these small and minute pests. This is a good deal more than the value of a large number of our principal farm crops, and even exceeds the value of the total number of sheep in the United States. These who are regarded as authorities on the subject state there is a greater likelihood of this sum being increased instead of diminished, on account of the new pests which are added annually to the already large number we are now compelled to fight.

NUTRITION IN GRASSES.
EDITOR AMERICAN FARMER: Please give me the nutritive value of bromegrass, timothy, orchard, tall oat, and red clover?—H. P. CACKMAN.

Answer. In a recent bulletin of the Agricultural Department, the relative value of a large number of grasses was given, from which we are able to answer your inquiry.

Grasses.	Crude Fat, per cent.	Crude Fiber, per cent.	Nitrogen free extract, per cent.	Albumenoids, per cent.
Bromegrass.....	1.32	13.40	67.38	4.64
Timothy.....	1.51	12.45	66.04	6.46
Orchard.....	1.35	12.45	66.04	6.46
Tall Oat.....	1.35	12.45	66.04	6.46
Red Clover.....	1.35	12.45	66.04	6.46

THE PEA VINE FOR WHEAT.
EDITOR AMERICAN FARMER: I would like to have you give me a cheap, green fertilizer for wheat which will keep up the fertility of the soil. I do not care so much for the increased yield as I do for maintaining the proper amount of fertility.—J. M. H.

Answer. We are of the opinion that the pea vine would be what our correspondent could use to best advantage for his wheat. Clover is well known, but there are a good many things in favor of the pea vine for green manuring which justifies its use. At the Raleigh (N. C.) station the agriculturist, Mr. F. E. Emery, made various experiments. He found that fertilizers, costing an average of \$3.37 per acre, raised the yield of wheat one and one-half bushels to the acre. While wheat selling at a good deal less than a dollar a bushel, it is seen that this is a losing plan. With two bushels of pea seed sown to the acre the yield is increased 10 bushels, at the same time leaving the soil in a state of fertility as much as could be expected after any crop is harvested. The seed costs \$1 per bushel, and allowing \$3 for the plowing and harrowing of the acre, we find the total cost to be \$5. The seeds of the vine can be collected before plowing in the crop, because it is best not to sow the land by turning the green vines under. This being the case, the seed should be sown early enough to give the plants time to mature before plowing under.

THE NUMBER OF EXPERIMENT STATIONS.
EDITOR AMERICAN FARMER: Will you please give me the number of experiment stations in the United States? Are the expenses of these borne by the General Government or the State, and are they established by an act of Congress?

Answer. A great majority of the stations are in operation under an act of Congress approved March 2, 1887, and consequently they are looked after by the General Government. Stations are in every State and Territory except Montana and Alaska. In several States the United States grant is divided so that 49 stations in 46 States and Territories are receiving money from the United States Treasury. In Connecticut, Massachusetts, New Jersey, and New York a separate station is maintained entirely, or in part, by State funds, and in Louisiana a station for sugar experiments is kept up by contributions from sugar planters. In a great many States sub-stations have been established, and if all these are included the total number of agricultural stations in the country number 55.

SORGHUM FOR SUGAR.
EDITOR AMERICAN FARMER: I was thinking of giving some ground to sorghum, believing that there is some profit in it. Which would you recommend as the best variety to plant? Where can I obtain the seed?—J. M. R., Arkansas.

Answer. We think that if you make application to the Agricultural Department, Washington, D. C., you will receive some sample packages. The Department sometimes analyzes a number of varieties and has found the percentage of sugar in the juice of each. We think from what they found out that Folger's Early and Early Amber are the best varieties. We give their full analysis for your benefit:

NAME OF VARIETY.	Sugar in Juice, per cent.
Folger's Early.....	16.14
Folger's Early.....	15.70
Folger's Early.....	15.65
Folger's Early.....	15.65
Folger's Early.....	15.65
Folger's Early.....	15.65
Folger's Early.....	15.65
Folger's Early.....	15.65
Folger's Early.....	15.65
Folger's Early.....	15.65

GRASS FOR ARID REGIONS.
EDITOR AMERICAN FARMER: Will you give me a variety of grass, other than alfalfa or lucerne, which will make a good growth on arid or subarid regions?—J. M. C.

Answer. Dr. J. A. Sewell, who was Superintendent of the Experiment Station at Garden City, Kan., made a test of a number of varieties of grasses, to determine the most suitable for such a region as our correspondents describes. He found out that in such section, even in the driest seasons, that *Panicum Virginicum*, a native grass, sometimes called switch grass, will yield from one and a half to two tons of hay per acre; superior to alfalfa as food for horses, *Trinoma Jacintha*, or brown grass, superior to timothy for cattle or horses, was also found to be an excellent feed, yielding in two cuttings from one-half to three tons of hay per acre.

PETITIONS AND BILLS.

Introduced in Both Houses of Congress for the Interest of Agriculture.
Aug. 14.

The Vice-President presented a petition of the Legislative Assembly of the Territory of Arizona, praying that an appropriation be made for sinking artesian wells in the Territory. Referred to the Committee on Irrigation and Reclamation of Arid Lands.

Mr. Butler, of South Carolina, presented memorials of the Farmers' Alliance of Orangeburg County, S. C., and Barnwell County, S. C., praying that an appropriation be made for the Sherman Silver Law, unless accompanied by free coinage of silver. Referred to the Committee on Finance.

He also presented a petition of the Farmers' Alliance of Spartanburg County, S. C., praying for the free coinage of silver. Referred to the same committee.

Mr. Coke, of Texas, introduced a bill appropriating funds for inspection and tests of American timber. Referred to the Committee of Agriculture and Forestry.

Mr. Peffer, of Kansas, presented a petition of the Farmers' Alliance of Franklin County, Kan., praying for the passage of a free coinage bill and the repeal of the Sherman Silver Law. Referred to the Committee on Finance.

Mr. McMillan, of Michigan, presented a petition of sundry citizens of Ellyria, O., praying for the enactment of legislation to investigate the subject of the desirability of legislative action looking to the improvement of country roads. Referred to the Committee on Agriculture and Forestry.

Mr. Peffer, of Kansas, presented a memorial of the Farmers' Alliance of Cherokee County, Kan., remonstrating against the repeal of the Sherman Silver Law, unless a bill is passed for the free coinage of silver. Referred to the Committee on Finance.

He also presented a petition from a number of farmers residing in Anaheim, Orange Co., Cal., who are engaged in growing beets for the manufacture of sugar. He was desirous of having the same read, but on account of an objection it was referred to the Committee on Agriculture and Forestry after being printed in document form.

Mr. Mitchell, of Oregon, presented a memorial of Pomona Grange, Mulino, Ore., remonstrating against the repeal of the Sherman Silver Law, unless a bill providing for the free coinage of silver be enacted in lieu thereof. Referred to the Committee on Finance.

Mr. Squire, of Washington, introduced a bill to extend to Alaska the benefit of the laws encouraging non-resident States and Territories in agriculture and the mechanic arts. Referred to the Committee on Agriculture and Forestry.

Mr. Faulkner, of West Virginia, presented a petition of the West Virginia Farmers' Alliance and Industrial Union praying for the free coinage of silver at a ratio of 16 to 1. Ordered to lie on the table.

Mr. Call, of Florida, presented a petition from the Sumter County (Fla.) Farmers' Alliance praying for the free and unlimited coinage of silver. Ordered to lie on the table.

Mr. Vance, of North Carolina, presented memorials from the Farmers' Alliance of Dallas and Goldsboro, N. C., remonstrating against the repeal of the Sherman Silver Law. Ordered to lie on the table.

AGRICULTURAL COMMITTEES.

The Members From Both Houses as they are for the Present Congress.

On Aug. 21 Speaker Crisp, of the House of Representatives, announced the members of the various committees as they will be during the 53d Congress. The Committee on Agriculture and Forestry is made up of the following: Wm. H. Hatch, of Missouri, Chairman; Sydney H. Alexander, of North Carolina; George W. Shell, of South Carolina; Wm. S. Egan, of Kansas; Charles L. Moses, of Georgia; James H. Hays, of Indiana; Benj. F. Funk, of Illinois; Lewis D. Apley, of Massachusetts; Eugene J. Hainer, of Nebraska; Henry M. Baker, of New Hampshire, and Dennis T. Flynn, of Oklahoma.

Transfers of Pure-Bred Stock, American Southwestern Record.
Topsy 5521, Maid 5520—J. C. Anderson, Anderson, O., to J. A. Shawman, Alexandria, O.
Clipper 5148—C. S. Shaw, Newark, O., to John Gilmore, Gent. Ind.
Baxter 5679 and Virginia 5678—H. A. S. Hamlin, Fishville, Va., to J. F. Ellison, Rock Camp, W. Va.
Virginia Tiger 5685 and Ben Handhood 4707—W. U. Noble, Brecksville, O., to H. A. S. Hamilton, Fishville, Va.
Gladstone 5170—W. E. Spicer, Harvard, Neb., to W. U. Noble.
Huro 5528—C. A. Garland, Bangor, Me., to Arthur Hilton, Anson, Me.
Simmenton Eve "14" 5224, Simmenton Eve "21" 5231, and Colter 5233—A. Simmenton & Sons, Blackheath, Ontario, Canada, to Geo. McKenney, Sussex, Wis.
Lottie LXXII, 5334, Lottie LXX, 5353, and Lottie LXXIX, 5351—J. M. & F. A. Scott, Huntsville, Mo., to F. A. Scott, Huntsville, Mo.

The standing committee of the Senate on Agriculture and Forestry, is composed of James Z. George, of Mississippi, Chairman; Wm. B. Hale, of Tennessee; Matt W. Hanson, of North Carolina; Wm. A. Peffer, of Kansas; Wm. N. Beach, of North Dakota; James McMillan, of Michigan; Wm. D. Washburn, of Minnesota; Redfield Proctor, of Vermont, and Henry C. Hansbrough, of North Dakota.

Canada's Wheat Crop.
The Provincial Department of Agriculture at Winnipeg, Manitoba, has just issued a crop bulletin dealing with crops throughout Manitoba. The average yield of grain is placed as follows: Wheat, 21.1 bushels; oats, 39.9; barley, 31.1. (The estimated total yields are: Wheat, 21,176,804 bushels; oats, 15,985,198; barley, 3,569,198; oats, 147,028. The harvest is general throughout the country, and with a continuance of present fine weather for a couple of weeks Manitoba will have reaped one of the best harvests on record.

The Shenandoah Valley.
EDITOR AMERICAN FARMER: Please have published in your valuable paper which I take a few lines as to a good point on points about the Shenandoah Valley or south of it or in Maryland, where lands can be had cheaply, with good soil for fruit raising and keeping sheep.—H. GULLER, 31 Bristol St., Utica, N. Y.

We publish this, asking our readers in the Shenandoah Valley and in Maryland to correspond with Mr. Guller, giving him the information that he desires. This will doubtless result in giving some of them a good neighbor.—EDITOR AMERICAN FARMER.

OPENING THE STRIP.

The President Fixes the Date of Entry Upon Cherokee Lands.

President Cleveland issued a proclamation on Aug. 22 opening to settlement and homestead entry Saturday, Sept. 16, at 12 o'clock noon, central standard time, all the lands, except those especially reserved, recently acquired from the Cherokee Indian Nation and the Tonkawa and Pawnee tribes in Indian Territory, known as the Cherokee Outlet.

The lands now open to settlement are divided into seven Counties. After reciting the law and treaties with the Indians under which the land was ceded to the Government, the proclamation describes the tract reserved for the benefit of the several Counties. In each of these County seats four acres are reserved for the site of a courthouse, to be designated by lot and block upon the official plot of survey of said reservation for County purposes, hereafter to be issued by the Commissioner of the General Land Office, reservation to be additional to the reservations for parks, schools, and other public purposes required to be made by section 22 of the act of May 2, 1890. In Counties M, N, O, and P, in addition to the four-acre reservation for County seat purposes, there is an additional reservation of one acre for a site for a land office. The land districts are to be described as follows: The Perry district, which embraces all of Counties K, P, and Q, and all of the lands lying west, and 1, 2, 3, and 4 east, which are by law added to Payne County, and that part of the Pawnee reservation in townships 15 and 19 north, ranges 5 and 6 east.

Mr. McMillan, of Michigan, presented a petition of sundry citizens of Ellyria, O., praying for the enactment of legislation to investigate the subject of the desirability of legislative action looking to the improvement of country roads. Referred to the Committee on Agriculture and Forestry.

Mr. Peffer, of Kansas, presented a memorial of the Farmers' Alliance of Cherokee County, Kan., remonstrating against the repeal of the Sherman Silver Law, unless a bill is passed for the free coinage of silver. Referred to the Committee on Finance.

He also presented a petition from a number of farmers residing in Anaheim, Orange Co., Cal., who are engaged in growing beets for the manufacture of sugar. He was desirous of having the same read, but on account of an objection it was referred to the Committee on Agriculture and Forestry after being printed in document form.

Mr. Mitchell, of Oregon, presented a memorial of Pomona Grange, Mulino, Ore., remonstrating against the repeal of the Sherman Silver Law, unless a bill providing for the free coinage of silver be enacted in lieu thereof. Referred to the Committee on Finance.

Mr. Squire, of Washington, introduced a bill to extend to Alaska the benefit of the laws encouraging non-resident States and Territories in agriculture and the mechanic arts. Referred to the Committee on Agriculture and Forestry.

Mr. Faulkner, of West Virginia, presented a petition of the West Virginia Farmers' Alliance and Industrial Union praying for the free coinage of silver at a ratio of 16 to 1. Ordered to lie on the table.

Mr. Call, of Florida, presented a petition from the Sumter County (Fla.) Farmers' Alliance praying for the free and unlimited coinage of silver. Ordered to lie on the table.

Mr. Vance, of North Carolina, presented memorials from the Farmers' Alliance of Dallas and Goldsboro, N. C., remonstrating against the repeal of the Sherman Silver Law. Ordered to lie on the table.

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FREE COINAGE OF SILVER.

The House of Representatives Decidedly Opposed to It.

The debate on the silver question, which was maintained in the House of Representatives for the past three weeks, was brought to an end Monday, Aug. 28, when a vote on the subject was taken. This vote shows most plainly that the House is not in favor of the free coinage of silver, and moreover that by a large majority favored the repeal of the Sherman Silver Law.

The result was a surprise, on account of the large number in favor of the repeal. It was conceded that the repeal was certain, but the greatness of the vote was a surprise to all.

Immediately upon the opening of the House on Monday the matter was brought up. The order was that the vote should be taken first on an amendment providing for the free coinage of silver at the present ratio. If that failed, then a separate vote to be had on a similar amendment proposing a ratio of 16 to 1; if that failed, on one proposing a ratio of 19 to 1; if that failed, on one proposing a ratio of 20 to 1. If the above amendments failed it was in order to offer an amendment reviving the act of the 24th of February, 1875, restoring the standard silver dollar, commonly known as the Bland-Allison act; the vote then to be taken on the engrossment and third reading of the bill as amended, or on the bill itself if all amendments were voted down.

The report says also that as much maize, oats, and barley will be needed to take the place of fodder destroyed by the drought, the consumption of wheat and rye is likely to be unusually large. High prices, therefore, are likely to rule when the American shipments to Europe cease.

Cost of the Seed Distribution.
According to a statement furnished by the Secretary of Agriculture, the cost of the seed distributed in 19 fiscal year ended June 30, 1891, was slightly under \$40,000, the cost of labor engaged in the distribution, aside from the salaries of the seed agents, remained stationary and amounts to \$13,520 annually, was \$37,000, the number of packages of seed distributed that year slightly exceeding 6,000,000. In 1892 the cost of seed was \$48,720; cost of labor, \$30,440; number of packages distributed, 5,925,000. The figures for the fiscal year last past included an additional appropriation of \$20,000 for seed, the total cost being \$68,548; cost of labor, \$24,040, and number of packages of seed distributed, 7,705,000.

Forbidding Exportation of Fodder.
Consul General Judd, at Vienna, has informed the State Department that the Hungarian Ministry has entered into an agreement with the Austrian Government to forbid the further exportation of hay, straw, and other fodder. The reason for the passage of the law, the Consul states, was on account of the rapid advance in the price of the articles affected. The enormous exportation led to the decision to be held in Vienna in April next. The exportation will include all classes of food, especial attention being given to Indian corn.

For Farmers' Institute.
The Pennsylvania State Board of Agriculture has changed the method of dividing the appropriation for expenses of holding farmers' institutes among the counties by adopting as a basis the number of farms in each County, as determined by the census. Each County will be given a minimum appropriation of \$75 and in addition to this will receive an additional amount proportioned to the number of farms.

The average amount appropriated to single Counties will be about \$150, but in accordance with the new plan the actual amount will vary from \$85 to \$200, according to the number of farms in each County. This plan, it is thought, will be more satisfactory generally than the old one, which gave \$100 to a majority of Counties and \$150 each to a few of the larger ones.

Going to the World's Fair?
If you are, go via Cincinnati and the C. H. & D. and Monon Route. The superb train service of the line between Cincinnati and Chicago has earned for this line the title of the "World's Fair Route." It is the only line running Pullman vestibuled trains with dining cars between Cincinnati and Chicago.

The C. H. & D. have issued a handsome panoramic view, five feet long, depicting the World's Fair, showing relative heights of the prominent buildings, etc., which will be sent to any address, postpaid, on receipt of 12 cents in stamps. Address, E. O. McCormick & P. O. Box 1, Cincinnati, O. Be sure you get the latest read via Cincinnati and the Cincinnati, Hamilton & Dayton R. R.

Stock Meetings in Chicago.
The annual meeting of the American Shropshire Registry Association will be held Oct. 2, 10 o'clock a. m., in Assembly Hall, Live Stock Building, World's Fair Grounds, Chicago, Ill.

The annual meeting of The American Shetland Pony Club will be held Oct. 14, 7 o'clock p. m., in Assembly Hall, Live Stock Building, World's Fair Grounds, Chicago, Ill.—MORTIMER LEVERING, Secretary, Lafayette, Ind.

The American Southwestern Breeders' Association announces the following program for their meeting to be held in Assembly Hall, World's Columbian Exposition, Chicago, Ill., on Wednesday, Sept. 27, at 10 o'clock a. m. To this meeting all sheep breeders and those interested in the sheep industry are cordially invited. The program, with the address of Hon. J. H. Potts, President, and reports of S. E. Prather, Secretary; D. W. Smith, Treasurer. Southdown Sheep: "Their Treatment and Why Preferred to Other Breeds." W. W. Chapman, Secretary, Southdown Sheep Breeders' Association, London, England; "As Found in England," John Holmes Warren, Hosking Falls, N. Y.; "Their Claims to Public Favor," John Jackson, Abingdon, Ontario, Canada; "For Market," Geo. McKenney, Sussex, Wis.

I Vote for Hood's
For I am satisfied it is a excellent remedy. I have been a minister of the M. E. Church 40 years, and have suffered of late years with rheumatism and dyspepsia. Since taking four bottles of Hood's the rheumatism is entirely cured, my appetite is good, food digests well, and I have gained several pounds. Hood's Pills cure biliousness. See a box.

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THE WORLD'S SUPPLY OF WHEAT.

Estimates Made by the Hungarian Minister of Agriculture.

The estimate of the world's production of wheat this year, according to the annual report of the Hungarian Minister, is 2,279,000,000 bushels, against the official average of 2,280,000,000 annually for the last 10 years. The report gives also the following figures: The deficits to be filled by the importing countries will require 379,000,000 bushels. The surplus available in exporting countries to satisfy this demand is 378,000,000 bushels. The world's product of rye is given as 455,000,000 hectolitres.

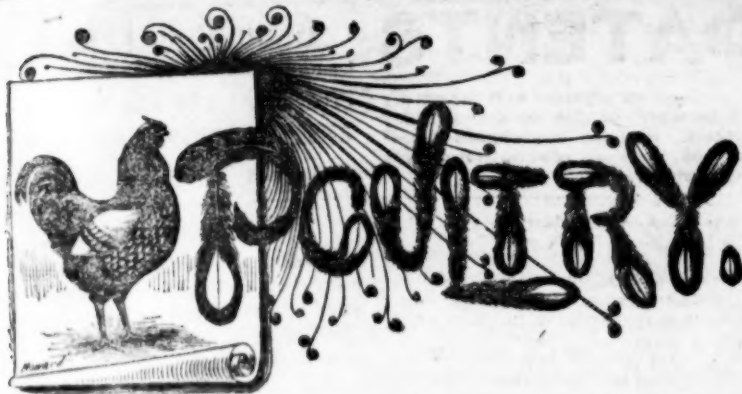
The production of wheat and the deficit (amount above the domestic supply) in each importing country is given thus:

Country.	Product in bushels.	Deficit.
Great Britain.....	50,750,000	181,427,000
France.....	263,794,000	46,318,000
Germany.....	90,750,000	25,587,000
Italy.....	122,012,000	45,738,000
Netherlands.....	73,840,000	8,512,000
Sweden.....	4,500,000	12,768,000
Belgium.....	25,000,000	25,000,000
Denmark.....	4,250,000	3,868,000
Spain and Sweden.....	27,820,000	22,270,000
Portugal.....	5,675,000	5,675,000
Georgia.....	2,275,000	2,275,000
Austria.....	45,000,000	30,755,000

The production and surplus in each exporting country are given thus:

Servia.....	8,512,000	8,405,000
United States.....	397,250,000	89,518,000
Canada.....	43,980,000	9,931,000
India.....	274,835,000	52,562,000
Rest of Asia.....	65,262,000	7,093,000
Africa.....	36,716,000	3,688,000
Australia.....	39,725,000	19,285,000
Argentina.....	56,750,000	26,105,000
Chile, etc.....	10,862,000	6,526,000

The report says also that as much more



Cackling.

Turkeys will come home to roost if they are fed regularly in the evening. Grain may be fed entirely, but if mixed with bread crumbs and scraps from the table, the turkeys will like it much better.

Look over the flock and count them. You will find about half the chicks that you hatched this Spring are missing. Then look about and see what has become of them. Possibly rats, hawks, or even the pet cat has had something to do with the loss. See if a remedy cannot be found.

The sitting of Bantam eggs is deferred until late in the season, as they do not then have time to attain the size they otherwise would. The smaller a Bantam is the larger the price it will bring. Keep the chicks free from lice and there will be no more trouble raising them late in the season than in the Spring.

Many flocks in the southern section roost outside on the cedar trees, where, refreshing, cool breezes at night bring to them more comfort, better rest, and less chances of disease, contracted often in a poultry house in hot weather, to say nothing of the constant torment vermin gives them at this season. I would strongly advise all who can to permit their fowls to roost during the hot season; it will do no harm and add much to their comfort.

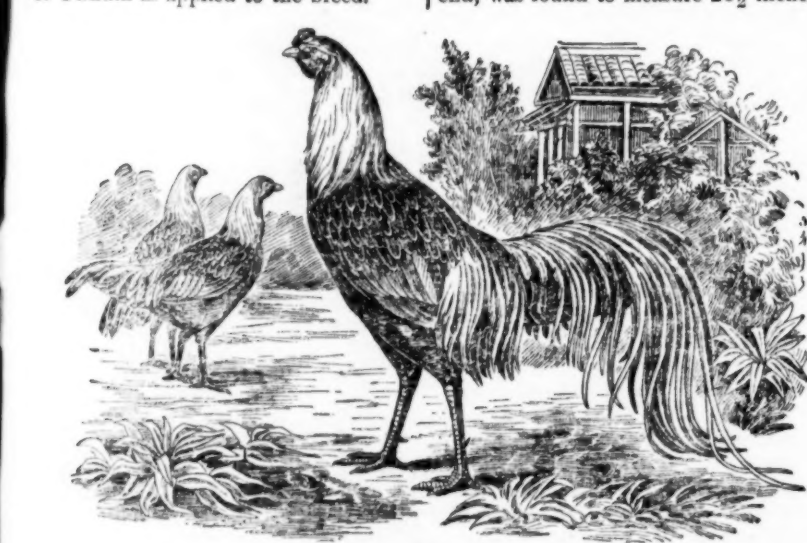
If you expect to use an incubator the coming season, the time to purchase is now. There is very little demand for them at this season of the year, and the dealers might sell some lower than when the demand is greater. Much loss is occasioned the operator by his lack of experience. By beginning now while eggs are cheap, you will thoroughly understand the management of it, and when that comes to begin work in earnest there will be no uncertainty.

To make the most out of chickens one must know when to sell. Watch the market and the chickens and try to sell when they will give the most profit. A chick weighing between one and three pounds will bring about 25 cents per pound, while if it be kept until it weighs more than three pounds it will be classed among old fowls and only bring about nine cents per pound. If sold before it attains a weight of three pounds you will not make as much as you might have, and if sold afterward, it will not bring enough to pay for the raising.

YOKOHAMA FOWLS.

The Long-Tailed Japanese Fowls that are Peculiar to the Orient.

The principal peculiarity of this breed consists in its immense length of tail and hackle feathers. These were exhibited as the Yokohamas; others, said to be superior in these points, were called "Phoenix" fowls. It is often seen in Japanese pictures, a long-tailed bird perched hovering down from Heaven and bearing a little god. The Fung (or Phoenix) is one of the myths of the Japanese religion, and it was thought that the Yokohama fowls were like those found in the paintings; hence the name of Phoenix as applied to the breed.

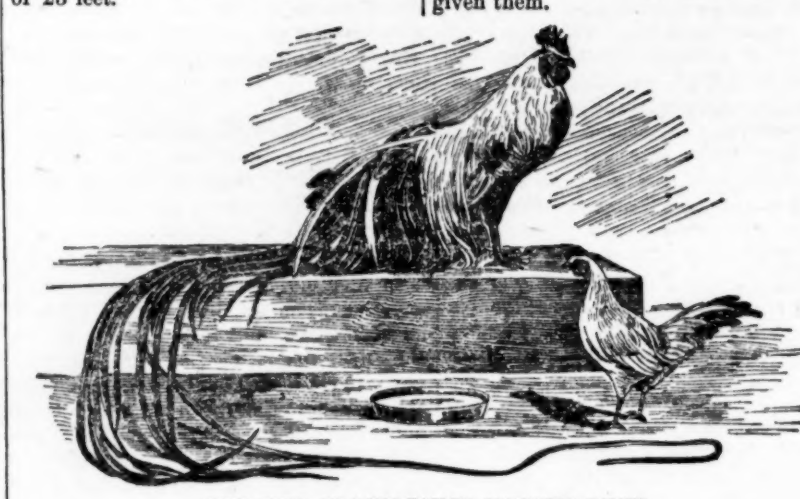


YOKOHAMA FOWLS.

The numerous photographs and drawings fail to show any real distinction beyond greater or less development of the peculiar plumage. The tails of these specimens averaged about a yard in length, and general appearance was not only that of a Game fowl, but all the colors were Game colors—Whites, Pies, Duckings, and later a few Black-reds. The Countess Umi-Urbach, holds that the Yokohama and the Phoenix are different breeds of fowls.

Mr. Gerald Waller, of England, who made a very extended trip through Japan, says there are no such fowls as "Phoenix" or "Yokohama," but that there is a "Shinowaratano" fowl, which is extremely rare, and answers the description given of the Phoenix. No one disputes that "Phoenix" and "Yokohama" are names given by those who imported the fowls. His description of the fowls is as follows: "One of the most striking objects in the natural history department of the splendid new museum at Tokio is the large glass case, some eight feet high, containing, placed on a perch, one turned either way, two badly-preserved specimens of these long-tailed fowls, the tail feathers of both of which descend from above the perch to the floor of the case,

and these wind backward and forward a number of times in such a manner as to render it quite impossible to gain any thing like an accurate measurement of their length, but which, I have been informed, over 17 feet. I tried to obtain permission from the authorities at Tokio to be allowed to myself photograph these two specimens but failed. There is also a picture which has, I believe, no connection whatever with the stuffed specimens, except as giving in Japanese character a general description of this breed, and of one bird owned by a Mr. Shim-anouchi Torinichi, the Shizoku, of Kochi-ken, from which the sketch is taken, with tail feathers 13 feet and six inches long. The translation of this description was made for me by a Japanese friend. * * "I have been told that the tail feathers of the male birds of the Shinowaratano breed will and have attained the length of 23 feet, and I have no reason to disbelieve this statement. If a bird can grow a tail the sickle feathers of which are 13 feet and six inches or 17 feet, I do not see why it should not grow one of 23 feet."



MINO HIKI, OR LONG-TAILED JAPANESE FOWLS.

Tails of more than four or five feet have been bred from imported stock, on the Continent and in England. It is believed that none of the specimens having the longest tails have ever been imported. Mr. Waller states that the cocks, such as the stuffed specimens described, cannot be bought at any price. The way in which the Japanese fowls keep the birds having tails of immoderate length goes on the other hand, to sustain the theory that the imported bird might grow full-length tails except for injury to the feathers dragging on the ground. The Japanese keep these birds in high, narrow cages, sitting upon perches covered with straw rope. Food and water are placed at each end of this perch, and three times a day the birds are taken down and given a little exercise in a perfectly clean place.

The Japanese are dear lovers of their fowls, and there is no end to the care lavished upon their pets and the mode of preserving the beauty of these wonderful long-tailed birds. The White Phoenix, or Yokohama, is mentioned by an Englishman who traveled in Japan in 1881. This bird has a long tail, but not as voluminous as the specimens brought to Hamburg. A tail feather, broken a little at the thick end, was found to measure 28½ inches.



YOKOHAMA FOWLS.

There is vast difference of opinion in the matter of the comb, but the majority are strongly in favor of a single comb. Not having a standard of any sort, there are all styles and varieties of combs and feathers.

It is asserted by Mr. Waller that the male birds only molted their tail feathers once in three years. This is hardly creditable—to breed any birds that will molt less than once a year—but if such was the case, there would be no reason the birds should not produce feathers of a wonderful length.

This bird is undoubtedly a wonderful bird to the fancy, but our knowledge of it is not sufficient to pass any further opinion on it. The breeders of this country are practically in ignorance of its characteristics at the present time, but it would be a grand sight to see a pen of these birds in all of their wonderful plumage and peculiarities.

The United States, which produce the best rice in the world, and which have millions of acres of wet land which are especially adapted to its growth, raise only about one-half of the amount of that cereal which is consumed in this country.

POULTRY IN SUMMER.

The Care and Attention Which Should Necessarily be Given.

EDITOR AMERICAN FARMER: From the general tone of the poultry press, one not familiar with all the ins and outs of the business would be led to believe that only in Winter, while the weather is cold, did fowls need any special care and attention. All the papers are filled with wholesome advice upon the Winter care of fowls, while we scarcely ever see anything concerning their proper management during the season of extreme heat; and for my part I believe that more depends upon the Summering than does upon their Wintering.

Breeding birds have now been confined to the breeding pen for some six months, and as the season is now over, they should be given their full liberty. It does not pay to have chicks hatched out during the months of July and August, and if you think you must hatch out some Fall chicks, you will be much more successful if you will give your breeders as much liberty as your circumstances will admit of during the next two months, then yard them again about the 1st of September, when in two weeks their eggs will be again true to your mating. You will get more eggs if you do this, many more will prove fertile, and your breeders, after their short rest and the recuperation of their entire system, resulting from their daily rambles, will cause your chicks to hatch out large and strong; while had they been confined through the sultry season of Midsummer, your Fall chicks would have been weak and puny things, and would never live to pay you for one-half of the worry, care, and food given them.

I have a 200-egg capacity incubator, and hatch about 90 per cent. of fertile eggs, with the temperature averaging 103°. I never used a home-made incubator. For a brooder I used a box with glass upon two sides and a small door upon the other. The ventilators were near the top. This did very well in the daytime in the warm climate; but in cold nights it was obliged to be set in a heated room. I use Plymouth Rocks for market and white and brown Leghorns for layers.—H. S. POMEROY, Latsuma Heights, Fla.

The best hatch I ever had with a 200 capacity incubator was about 75 per cent. of the fertile eggs, with a temperature of 103°. My brooder was a manufactured one, but the results were anything but favorable. It seemed almost impossible to raise the temperature above 80°. I believe the incubator will do its part, but I haven't seen the brooder that will do justice yet.—H. C. MAXWELL, Manhattan, Kan.

My best hatch was 85 per cent. of fertile eggs, with the temperature at 103°, and varying from 101° to 105°. My incubators and brooders are manufactured ones, and I am well pleased with them. From my best hatch I have raised 75 per cent. of the chicks.—M. B. KISSEY, Montrose, Kan.

THE MARKETS.

Last Week in Chicago.

CHICAGO, Aug. 28.—The wheat market during the past week was heavy, and prices for September declined from 63½ to 59½, and reacted to 61½ and closed at 61½ to 61½, with a net loss of 1½ from the previous week's close.

The depression was due to the liquidation in September and to the free selling of December by the carriers who were actively at work during the greater part of the time trying to secure the best possible difference. The reduction of 1½ was due to the difference to 10c, but it did not get above 8½, and then began to narrow, and at the close was 6½, which pays about 20 per cent. per annum. The reduction of 1½ was due to the liquidation in September and to the free selling of December by the carriers who were actively at work during the greater part of the time trying to secure the best possible difference. The reduction of 1½ was due to the difference to 10c, but it did not get above 8½, and then began to narrow, and at the close was 6½, which pays about 20 per cent. per annum. 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THE FENCE CORNER.

Smart, But Truthful.
He entered a small haberdashery store the other day, and called for some shirts.
"Vat size you vish?" asked the Hebraic proprietor. "Fourteen and a half!" Dot vef haf not got, but you dakes der fourteen and a half home und soaks dem, und dey comes out your size, mine frend."
"Why will they shrink?" asked the customer, doubtfully.
"Vill dey shrink? I dells you dey shrink like ter tell!"
He took them, but a day or two after he came back with blood in his eye and transfixing the proprietor with a glance, he said:
"I had these shirts soaking all night and they ain't shrunk a bit. They must be cotton."
"Did I tell you dot dey shrink?" inquired Isaacstein, meekly.
"Yes you did. You told me they'd shrink like the devil."
"Vell, mine frend," said the Jew, triumphantly, "did you efer know der tell to shrink at ennytings?"—*Yankee Blade.*

A Lucky Fellow.



Mr. Budd—I am so lucky always, Miss Daisy, I think I was born with a silver spoon in my mouth.
Miss Daisy—Was it a tablespoon, Mr. Budd?
Just Like Home.
Tramp—The woman in that house treated me just as my own mother used to.
Walk—Set up a good warm meal, eh?
Tramp—Nope. A pan of water and a cake of soap.

Fixing The Watermelon.

"Here's a glorious way to fix a watermelon," said Blake to Mrs. Blake. "Scoop out the pulp, mix it with port wine, and after freezing it put some brandy in it and put it all back in the melon."
"Don't you drive a spigot in the melon?" asked Mrs. Blake, meekly.—*Philadelphia Record.*

A Crusher.



City Swell—I wish you would treat me as kindly as you do that umbrella, Miss Maggie. You clasp it so lovingly in your arms.
Country Girl—Well, I wish you were like this umbrella, Mr. Smartleigh, for then I could shut you up.

Mother and Daughter.

Little Ethel—Mamma, I wish you'd wash Willie Pretie's face.
Mamma—The idea! He's a neighbor's little boy. I have nothing to do with him.
Little Ethel—But I have. We've become engaged, and I want to kiss him.—*Street & Smith's Good News.*

The Reason Why.

He—Why do you think sitting out here in the night air will put you and Mrs. Gabbler on speaking terms again?
She—You silly boy, won't I catch an awful cold, and won't she be sure to tell me a remedy as soon as she sees me?—*Later Ocean.*

A Secret of Ages.



"Did you ever know a woman to keep a secret?"
"Yes, one; she never will tell her age."

Special Correspondence THE AMERICAN FARMER. OUR WORLD'S FAIR TALK.

Testing the Butter Contents of Milk.
WORLD'S FAIR GROUND, CHICAGO, ILL., Aug. 27, 1893.
Not until you have made a careful study of the laboratories in connection with the cattle test here can you appreciate how much science, and especially chemistry, has done for the dairy. As the milk of each cow is strained into its can a tube which holds one forty-second as much as the can is inserted in the milk and the depth is shown exactly. As the cows are milked three times a day, there are three samples which, mixed together, represent the quality of that cow's milk for the day, and the size of the sample enables the experimenters to know the exact quantity given every 24 hours. These samples are separated and the butter chemically analyzed. They start out with the assumption that butter fat is 80 per cent. pure fat, and that the 20 per cent. is composed of other substances not fat. While this percentage varies slightly, practically it is the same. These samples are analyzed by two different chemists, and the results must correspond. By a complicated series of changes by heat and by chemicals the absolute amount of fat that each cow gives is ascertained and is set down to her credit. All this work is gone through with in order to use the results as a corrective to the other estimates made as to the fat-producing capacity of the different cows.

A Preventive for the Horn Fly.
The Mississippi Agricultural College has recently published its results in experimenting on the horn fly. These flies have been of great injury to the dairy interests, and much time therefore has been spent upon this work. The treatment has been mostly preventive in its nature. It consists of application to the cattle of odorous substances which will keep the flies from the animals. For this purpose many substances have been recommended, but few have been of any value. The following have been given as those producing the most satisfactory results.

First. "Gnat oil," made as follows: Crude carbolic acid, one ounce; pennyroyal, one-half to one ounce; sulphur, one-quarter pound; crude cotton seed oil, one gallon. Mix well and apply with a brush or cloth to the back and shoulders of the cattle. The crude cotton seed oil is cheaper than the other oils, although fish oil or lard is equally as good in making the above.

Second. Fish oil and tar mixed and applied as above is equally effective. The tar is mixed with the fish oil so that the odor may last longer and thus keep the flies from the animals a greater length of time. Either of the above will keep the flies away from the animals for several days, after which the application should be repeated.

Third. The flies breed in fresh manure. It is thus important that the barnyards be kept as clean and free from manure as possible. Lime placed upon the manure will kill the larvae.

The Dairy Cow in Hot Weather.

This is the most trying time to the cow that is giving milk. The combined effects of hot weather and flies, and not infrequently short pasturage, makes the quantity of milk grow smaller and smaller. To a nervous cow this drain is so great and the loss of vitality so sure that in order to keep her from going entirely dry she must receive an unusual amount of food to keep up even a reduced milk flow. Grain, ground corn, oatmeal, and wheat bran, should be fed generously. The more a cow is fed the more milk she will give, and it is just as foolish and thriftless to scrimp her in the drouth of Summer as it is in the bitter Winter weather.

To reduce the fly nuisance, if possible turn the cows into pasture early and late, keeping them in the barn during the hottest part of the day. Substantial wire screens at doors and windows will pay for themselves in one season, even if the herd is small; but if you have neglected to supply yourself, carbolic acid water sprinkled around the stable with a common watering pot will do much to subdue them, as well as go far toward keeping a healthful atmosphere.

Be sure and give the herd free access to pure water, as they need much more at this season of the year.

Do not allow your cows to be hurried to or from the pasture. Haste means heat in these dog days, and heated blood means heated milk. The greatest care should be given to those who are to give milk in early September. They will be much better kept quietly in the stable than driven to pasture these hot days. Do not be afraid to milk a cow if the udder becomes hot and dry and shows signs of caking. What is left will be all right for the calf, and there will be less danger of fever.

Shady Pastures.

Now that the 100-degrees-in-the-shade weather is upon him, the slothful farmer wishes that he had supplied his pasture with shade trees. When thus provided the pasture furnishes more comfort for stock and better feed in time of drouth. A pasture that is one-fourth timber is most desired. This timber should be wisely distributed, and should be trimmed so that the sun is admitted to all of the grass and yet give shade to the cattle. Of course, the ideal pasture situated along a watercourse is most desirable, as it then furnishes a variety of soils for bottom, upland, and so on. Not all can have these pastures, and many are obliged to plant all the shade trees. Do not plant a willow hedge along the road, as it will drain and take from the vitality of the soil in Summer, and in Winter cause the snow to obstruct travel. Pasture shade trees should be distributed in clumps about the lot so that the stock may enjoy the circulating air. If

the piece is to be devoted to pasture, plant with that idea; but if rotation of crops must be considered, plant them so that they will interfere as little as possible.

The best varieties of trees should be chosen. In 10 years hard maples, hickories, butternuts, or elms will be well grown and almost as large as the less substantial willow or cottonwood. In any case, if you are not supplied, plant a grove on the knoll and see if the cows make any use of it.

A Dread Disease.

In Edwards County, Ill., the State Board of Live Stock Commissioners has pronounced the scourge which is carrying off hundreds of cattle to be anthrax, a most infectious and deadly disease. It has made fierce inroads in Wayne and Clay Counties, also, within the last month. It is communicable to human beings, and the bodies of the dead animals are being burned.

Skimmings.

Salt the cattle regularly. Keep all machinery in perfect repair. Never expose your cows to heat in Summer or cold in Winter.

Take pleasure in your work. Cheerfulness is a great lubricator. Feed everything well, and if the supply runs low sell a part of the herd if necessary.

Give strict attention to little things; watch closely the details, even though they seem of no importance.

Keep up with all improvements and do not become so attached to old methods that you cannot abandon them for new ones.

Not only our butter makers but cheese makers are beginning to realize that a salable article cannot be produced from milk from cows that drink stagnant water or are kept in foul barns. Cleanliness and sanitation are becoming more and more popular.

Matilda Fourth, one of the most famous Jersey cows in the world, died recently in Franklin Pa. She was owned by Congressman Sibley and Maj. Miller. She has given in one year 16,000 pounds of milk, from which were made 900 pounds of butter. She was valued at \$10,000.

Rape as a soiling crop is growing in popularity. Prof. Shaw, of Canada, says that when green rape is fed to milk cows the milk flow is generous and free. It has an advantage over turnip tops, as the milk is not tainted by it. Rape may thus be made to fill in the gap after other soiling crops are past, and be made also a desirable adjunct to concentrated foods when the stock are confined.

The dairy field seems well high limited to the scientific investigator. No sooner has he determined accurately the composition of milk and cream and encouraged the stock raiser to breed out one element and breed in another, than he begins to detect shades of difference in what are considered perfect products. For instance, he wonders if the size of the globules has anything to do with the digestibility of the article. If so, the matter will be looked into by the purchaser of milk for infants. It is generally considered that the smaller the fat globule the lower the melting point. If this be true, the question is one of practical importance.

The Piedmont Region of the South—"The Best Country Under the Sun."
After the war a heavy emigration began to the West from all the Southern States, which continued several years. In late years, however, the movement has been reversed, and people are leaving the West and are settling in all parts of the South. The experience of those who have lived in both sections is that while the yield per acre is not so large in the South as in some parts of the West, perhaps, yet the net profits for a series of years are quite as satisfactory and life far more comfortable, as the farmer does not have to contend with frequent and protracted drouths, destructive cyclones and caterpillars, and taking into consideration the climate, especially that of the Piedmont region of Virginia, the Carolinas, Georgia, and Alabama, traversed by the Richmond & Danville Railroad system, with its advantages of good markets, cheap lands, pure water, and perfect school systems, unquestionably the "Best country under the sun," especially for the tiller of the soil, the manufacturer of cotton, woolen goods, and tobacco, is that situated between Washington, D. C., and Birmingham, Ala., along the eastern slope of the Blue Ridge Mountains, where all classes of citizens are prosperous and happy and a good livelihood can be had with minimum exertion.

Outdoor work can be done every day in the year, and storms, destructive alike to life and property, are not feared as in other sections of the Union.

Map folders, showing time schedule and extent of Richmond & Danville system, roads, and circulars descriptive of land, climate, etc., can be had on application to the Passenger Department, Richmond & Danville Railroad, Washington, D. C.

Another artesian well, to be used for irrigation purposes, has been sunk near Huron S. D. It is 930 feet deep, 750 of which is six inch bore, and 180 feet four and a quarter inch. The flow is nearly 1,000 gallons per minute, and pressure a trifle over 100 pounds per square inch. C. S. Fassett, engineer of irrigation, pronounces it one of the best wells in the State.

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Covered with a Tasteless and Soluble Coating. Of all druggists. Price 25 cents a Box. New York Depot, 235 Canal St.

THE ORCHARD.

Good fruit will always bring good prices. Sorting of fruit intended for market always pays. Trees pruned in August or September generally heal well.

Budding may be done at any time from July until the sap hardens. Do not allow any grass to grow around the young trees, as it hinders their growth.

The apricot is a delicious fruit, which ripens between the cherry and the peach. For fruit trees the soil should be dry, as they do not thrive on land that is constantly saturated with water.

The work of spraying should be done early in the season before the attacks of the insects are noticeable on the plants. Apply the insecticide to all parts of the plant or tree, holding the sprayer so that both sides of the leaves are reached.

Do not spray more than is actually necessary. The profits are not increased and the plants are injured by too much spraying.

Summer pears should be gathered at least 10 days before they are ripe. Autumn about 14 days, while the Winter ones may be left on the trees until leaves begin to fall.

Stony land that is unfit for anything else will often raise the best fruit. Do not let such land lie idle, but plant something that will at least keep the weed from growing.

When fruit is being planted for the market it is best to have all the trees of the best known varieties. As a general thing it is best never to plant over two or three kinds. Large farms prefer to handle fruit in large quantities of the same sort, and the cost of disposing of the crop is less when they are of the same kind.

Fruit trees that are near an apiary often bear large crops, while those that are not frequented by bees have very little or no fruit at all. It seems very clear to us that the bee is the friend rather than the enemy of the fruit grower, and think that both the bees and the fruit would do better if the hives were set in the orchard.

The peach is an improved variety of the almond. The almond has a thin shell around the stone which splits open and exposes the stone when mature. This outer skin has simply become fleshy in the peach, so that all that gives it its specific character. It seems now clear from investigation in the history of ancient Babylon that in their gardens, now nearly 4,000 years old, the peach was cultivated then as it is now. It must have been many years before this that the peach was improved from the almond, and this fact goes to show the great antiquity of the fruit.

WALNUTS AND PECANS.

The Value of These Trees When in Full Bearing.

EDITOR AMERICAN FARMER: I saw in a late issue of your paper an article on the walnut question, which, if I recollect, was of California origin. I have written a great deal in agitating and trying to introduce it and its culture into the Southern States. I fail at present to remember where I saw it stated that it has proved a success somewhere South, where it was given a trial. All this seems lagging and dragging, for we all know that where the hickory grows and does well the walnut will also. We have some English walnut trees here near Memphis, Tenn., that are 20 years old and bear abundantly every year. They are, however, somewhat isolated, and nobody but plunderers know anything of them.

I have written much on the subject, and think if you, with the powerful influence your paper has, would take the matter in hand, great benefits would result. I am perfectly aware that the English walnut succeeds admirably and is in its element in Tennessee and southward; and while it is not strictly fond of low, swampy, bottom lands, yet it is perfectly adapted to the average bottom table lands all over the South. Millions of trees might be planted all over this section and thus save to this country about 15 cents on every pound we buy from foreign lands—no small sum in the aggregate. This is one, little as it may seem, of the props of Southern independence. There are many kinds written about, but the average nut as sold in our towns is good enough, and will be for the next 100 years.

Then we have the pecan—equally little known, and the trees fast disappearing from its native element, the South—and next thing to as fine a nut, these being the same family as are found in all the wild lowlands of the South. Trees bear abundantly, and what few nuts are gathered and reach markets are a few restricted.

You cannot urge the planting of these trees too much. They adapt themselves to almost any soil and location. It is true fruit need not be expected under 10 years, but when they get to be 100 years old they are in perfection. They are subject to no insect pest, late frost, or any failure of a regular annual crop. The fruit is easily gathered, easily saved, and easily marketed, and no trouble in transit or storage, and if not sold at home, can be abroad.

We have said nothing of the value of the wood as timber, but some say this is a far way off. The writer was advised 40 years ago to plant pecans and English walnuts, but a young man is very seldom a wise man. Those of you who have land, plant for your heirs; a better fortune you cannot leave them, as you are only able to plant so many acres each year.—JAMES STEWART, Memphis, Tenn.

FACTS ABOUT TORNADOES.

A Paper by H. A. Hazen, of the United States Weather Bureau.

At the World's Congress of Meteorology at Chicago, Aug. 21, Mr. H. A. Hazen, of the United States Weather Bureau, read a paper on "Thunderstorm and Tornado Facts." He said in part:

"A careful compilation of thunderstorm observations, begun by the Smithsonian Institution in 1849 and continued by the Weather Service since 1871, has shown that they have a period coincident with that of the sun spots. This is the more remarkable because the relation determined in Europe has been exactly opposite that. Thunderstorms have been classed as infant tornadoes, and it is certain that, with a few doubtful exceptions, the facts regarding one are directly applicable to the other. These storms usually occur in the southeast quadrant of a general storm and 400 to 500 miles from its center. They have a velocity double that of the general storm. They occur on the hottest days of the month and a little after the hottest part of the day. Thunderstorms often begin at a center and spread out in fan-shape. Individual storms move along parallel lines and clear sky may be between two storms. The air pressure rises in the center.

"Perhaps the most persistent phenomena in connection with these most violent and destructive outbreaks are the constant and profuse discharges of lightning which immediately precede or accompany them. Balls of fire or globular lightning have also been noted. They are very narrow, seldom over 500 feet, and always move from a westerly to an easterly point. There is a loud and indescribable roar which precedes them, and this may be heard 15 minutes before the tornado strikes and will generally give sufficient warning. This roar is probably due to a constant thunder and has been heard in a modified way in connection with a severe thunderstorm. The paths are parallel, and distinct tornadoes move along these paths, beginning after the hottest part of the day. Each tornado has a path a little to the southeast of the former. This action may be kept up till after sunset or five or six hours after the hottest part of the day.

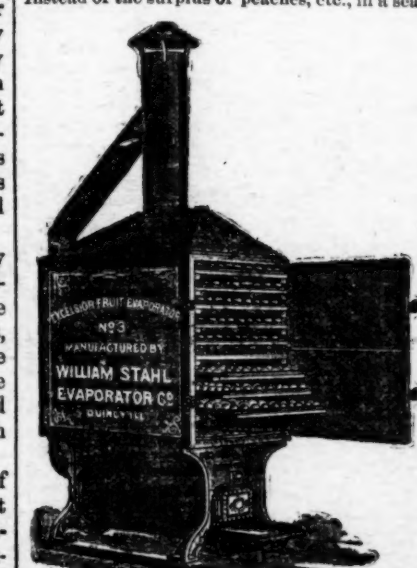
"Little careful attention has been paid to the observation repeatedly made that the first appearance is of two clouds, one coming from the northwest and the other from the southwest. This appearance has been greatly misinterpreted at times, as it has been thought that the north cloud, which is cold, has met the warm south cloud. This has given rise to enormous contrasts of temperature and the terrible conflict between these has developed or resulted in the tornado. It is evident that the meeting of two clouds of different temperature could not produce an unstable equilibrium at all, moreover, the appearance of these clouds all along the line show that they are engaged in a continuous action and do not form a single union and thereafter move on as a storm. The distribution of debris also shows this clearly. In the center of the track all material, trees, etc., are deposited in parallel lines, and look as though dropped by a mighty river flowing over the ground. On the south side there is an inclination inward and forward along the line of the storm. On the north side there is a similar action, but oftentimes the trees and debris are deposited in lines pointing to the direction from which the storm has come, showing that in such cases the north cloud acted first.

"The most interesting point which

Evaporating Fruits and Vegetables.

Many good things may be truthfully said of evaporating fruits and vegetables; but probably the most influential thing that can be said of it is that it is highly profitable. There are very few things that will pay as high a percentage on the capital invested as that which will certainly pay a profit as this process of evaporating fruits and vegetables; and while it requires comparatively little capital, it also can be said in its favor that it does not require any skill or special information that may not soon be acquired by the person of average intelligence. No one need hesitate to purchase an evaporator because he or she has had no previous experience with this process of disposing of fruits and vegetables.

By means of an evaporator, not only can the crop of fall apples or the windfalls among the winter apples be utilized, but the surplus of other fruits above that needed for immediate consumption can be preserved at a cost much less than the price for which the product can be sold, or its real value for home consumption, instead of the surplus of peaches, etc., in a season.



son of great plenty being wasted, they can easily and cheaply be put in such form that they can be kept until a season of scarcity and afford delightful feasts for home consumption, or can be sold at highly remunerative prices.

It is notorious that a majority of farmers and fruit growers do not sell their products nearly so advantageously as they could, because they do not bring more if the one-third of poorest quality brings down very materially the price of the whole. It is the old story—the best does not pull up the worst, but the worst pulls down the best.

Now, the man with an evaporator can sell his fruits and vegetables very severely, and by evaporating the poorer grades, can get two to three times as much for them as if he sold them with the better grade, while the better grades will bring a considerably better price because they are not contaminated by the inferior.

PATENTS

Opinions rendered as to the novelty and patentability of inventions and validity of patents. Rejected applications prosecuted. All business relating to patents promptly attended to.

now has come to the front is regarding the occurrence of an enormous whirl, with a diameter equal to the width of the greatest destruction. It has been thought impossible to account for the terrible destruction on any other theory. It is conceded at once that the onward progress of the tornado at 40 or 50 miles per hour could not do serious damage, but if the cloud rotates at 300 or 400 miles per hour all the destruction could be easily explained. Unfortunately this supposition, when properly examined, shows its own weakness. If a funnel whirling at 300 miles per hour should move at the rate of 40 miles per hour, then on the north side the velocity toward the rear would be 260 miles an hour and in front it would be 300 miles per hour. No such action as this has ever been noted. It is safe to say that there is no such uniformity in the destruction or disposition of debris. This point regarding the whirl of the tornado is the one over which there is the greatest controversy at the present day and demands the most careful investigation, especially in the line of a study of the debris. The strongest proof of the whirl has been the appearance of the cloud in midair, but a little thought shows that this appearance is most illusory and cannot be accepted in the light of the almost universal records of the distribution of debris. The whole subject is of the highest interest, and it is very fortunate that to-day there are many well-educated men, professors in colleges and others, who are devoting careful attention to its study.

DEHORNING CATTLE.

The Cornell Experiment Station Decides That It is Best to Do it Very Early.

The Cornell Experiment Station has been making a series of exhaustive experiments on the best method of dehorning cattle, and comes to the conclusion that much the best plan in every way is to perform the operation when the calf is about one month old, or as soon as the crust of the embryo horns can be felt. The application of a little caustic potash will perform the work quickly and painlessly. The caustic potash can be gotten from any druggist. It comes in sticks, which should be kept tightly corked in a glass stoppered bottle, and not handled with the bare fingers. The Station gives the following directions:

The hair should be closely clipped from the skin and the little horn moistened with water, to which soap or a few drops of ammonia have been added to dissolve the oily secretion of the skin, so that the potash will more readily adhere to the surface of the horn. Care must be taken not to moisten the skin except on the horn, where the potash is to be applied. One end of a stick of caustic potash is dipped in water until it is slightly softened. It is then rubbed on the moistened surface of the little horn. This operation is repeated from five to eight times until the surface of the horn becomes slightly sensitive. The whole operation need take only a few minutes, and the calf is apparently insensible to it. A slight scab forms over the surface of the budding horn and drops off in the course of a month or six weeks, leaving a perfectly smooth poll. No inflammation or suppuration has taken place in any of the trials we have made. The results of these experiments warrant the following recommendations:

1. That for efficiency, cheapness, and ease of application, stick caustic potash can be safely recommended for preventing the growth of horns.
2. The earlier the application is made in the life of the calf the better.

A Great Week.

The annual encampment of the farmers of New York State began Aug. 16, at Sylvan Beach N. Y. The encampment lasted for 10 days and is always a great event for the agriculturists. Each day is named and the exercises are governed by the title of the day. The first day was "Dedication Day." The speakers were H. L. Loucks, President of the New York State Farmer Association; Rev. Thomas K. Beecher, H. Alden Spencer, Mrs. Lulu Ford and Mrs. S. E. Spencer.

"Decoration Day" was Aug. 17, and Mrs. S. E. V. Emory, Mrs. Spencer, and Gen. James G. Feld were the orators.

Aug. 18, was "Peoples' Party Day," and then Gen. James B. Weaver and Ignatius Donnelly delivered speeches.

"Farmers' Day," Aug. 19, was the best of all. Dr. McGlynn was the star orator of that day, and on Sunday he spoke in company with Rev. T. K. Beecher.

Senators William M. Stewart, W. A. Regan, Gov. Waite, and Congressman Spencer, Thomas Patterson and Mrs. Todd were down for "Silver Day," on Aug. 21.

Tuesday and Wednesday, Aug. 22 and 23, were "Ladies' Day" and "Industrial Day," respectively. Mrs. Lease, of Kansas, was the principal attraction. The encampment closed on the 23d.

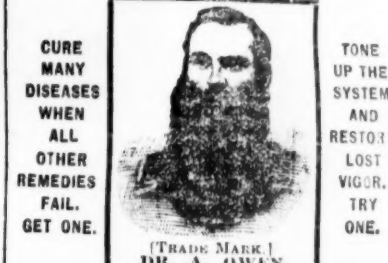
What Is a Sleeper.

A sleeper is one who sleeps. A sleeper is that in which the sleeper sleeps. A sleeper is that on which the sleeper carries the sleeper while he sleeps runs. Therefore, while the sleeper sleeps in the sleeper the sleeper carries the sleeper over the sleeper until the sleeper wakes the sleeper in the sleeper by striking the sleeper under the sleeper, and there is no longer any sleeper sleeping in the sleeper on the sleeper.

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To Exterminate Wolves.
A novel scheme has been adopted for killing off the horde of wolves in Texas. It is by inoculation of a disease among them. An enterprising shepherd in western Texas has been so bothered with wolves during the past 12 months that he had determined to try some plan of entire extermination. He found out that wolves were susceptible to mange, and having a dog badly afflicted with the disease, he went to work and successfully trapped 10 wolves and penned them up with the diseased dog. That was about two months ago, and now he finds that every wolf is covered with parasites which produce mange. They have been turned loose on the ranges, and it is expected that the disease, which is incurable, will spread rapidly and play havoc with the dense pack of wolves that infest that part of Texas, and the fact that no animal having the mange will breed, the further increase will be prevented.—*Exchange.*

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